Terra Incognita

Cartographic Silence, Censorship, Propaganda, Horror vacui and Lies on Old Maps

A map is a unique representation of the world around us. However, while we generally tend to agree that there is one world only, there is a multitude of ways that this world can be "mapped" or represented. In fact, every map has its selected geographical area, selected borders and each of them was created by a selection of elements to be displayed. Variations in these selections can lead to drastic differences in images drawn, as well as the elements that are omitted, both of which often turn out to be equally important. As Matthew Edney argues, when it comes to beliefs and practices within cartography, the two traditional 'idealizations' (that is, that 'maps are strictly factual statements and that 'cartography is an innately progressivist science that serves as a surrogate for Western civilization') are no longer intellectually credible. Firstly, the concept of maps as 'factual statements' representing some kind of presumed geographical truth is inherently flawed: the only 'truthful' 'map' would be a 1:1 exact replica. Maps necessarily distort reality, reducing a spherical world with three-dimensional, textured surface onto (generally) a two-dimensional, flat plane. Moreover, every map is the result of the geographical, cultural and ideological awareness of the cartographer; in turn, this impacts on modes of representation and production decisions about which features to include and which to leave out: the smaller the scale, the less detail can be shown. 'Facts' are therefore at best selective, and the premise of factual accuracy falls down altogether when addressing the mapping of places and spaces that are mythical or conjectured. Secondly, the concept of cartography as an 'innately progressivist science' similarly collapses under its own paradox when applied to other cultures and periods: Western 'scientific' discourses are situated within their own space and time and thus are of limited use when theorizing the 'other': 'scientific' mapping has limited value when applied to, for example, Australian Aboriginal 'Dreaming' maps of ancestral country which are sung, spoken, walked, danced and painted, or to Western medieval *mappaemundi* which were designed to map space and time with respect to human internal and external worlds in relation to God.

This monograph is a synopsis of published literature concerned with the dialogue that arises from the intentional or unintentional suppression of knowledge in maps. It is based on a theory of cartographic silence, that includes censorship, propaganda, *horror vacui* [fear of blank spaces] intentional and unintentional lies. The aim in this monograph is to probe those issues that arise from deliberate policies of secrecy, propaganda and censorship, and to examine the more indeterminate silences rooted in often hidden purposes, procedures or rules. These rules, it can be argued, are a sort of subconscious *mentalité* or set of ideas, values, and beliefs shared by a community that mediates the knowledge contained in maps in order to maintain the political *status quo* and the power of the state. Although much of what is said here applies to all periods, including the present, the focus is on early modern Europe. Maps from the 16th century onwards offer particularly clear opportunities for the exploration of a new perspective on the changing and reciprocal relationships between the rise of the nation state and the expansion of cartography. The establishment of stability and durability, the primary tasks of each and every nation state, in early modern Europe as at other times,

provides the background to this essay. In outlining, first, the theoretical framework, it will be argued that cartography was primarily a form of political discourse concerned with the acquisition and maintenance of power. Examples drawn from the maps themselves will then be used in support of this argument.

Although not blatantly, the cartographic history of the world is inseparably intertwined with cartographic "silence". Like other forms of media (newspapers, non-fiction books, documentaries, etc.), maps tell a "story" that the producers and creators envision. All of these forms of communication are developed with and for a predetermined purpose. As a result of that purpose the selected content is "managed" to fit the purpose; in other words what specifically gets consciously included and what gets consciously excluded. To ignore or downgrade these factors, as both the history of cartography and cartography have done is to close-off an important avenue of historical exploration, one in which maps can be seen to engage both the imagination and the social preconceptions of their readers. The following discussion of "silence" is a synopsis taken from a 1989 article by J.B. Harley, "Silences and Secrecy: The Hidden Agenda of Cartography in Early Modern Europe".

For Harley people, and especially people in positions of power who tried and succeeded in gaining control over knowledge, dictated what went on maps. They also dictated the exclusion of certain aspects of life and of landscape, imposing silences on representations of the earth. Measurement and classification did, he acknowledged, give some sense of objectivity but maps did not in the process lose their subjective aspect.

Thus, we learn that that which is absent from maps is as much a proper field for enquiry as that which is present. Another insight is that silence should he regarded as positive statements and not as merely passive gaps or the mere absence of something else. The term silence in the context of maps, rather than the somewhat negative 'blank spaces' of literature, silence should be seen as a purposeful human performance. Silence can reveal as much as it conceals and from acting as independent and intentional statements, silences on maps may sometimes become the determinate part of the cartographic message. In the case of a map the silence is not merely the opposite of what is depicted. The white spaces on early maps cannot always be explained simply by positing 'fact' against 'no fact'. Silence and utterance are not alternatives but constituent parts of map language, each necessary for the understanding of the other. A cartographic interpretation of silences on a map departs, then, from the premise that silence elucidates and is likely to be as culturally specific as any other aspect of the map's language. Harley divides cartographic silences into two categories – intentional and unintentional.

Harley concludes that the map is a silent arbiter of power, it is doubtful that the Renaissance map makers saw using maps for political purposes as original with them. While it may be difficult to dispute that, 'As much as guns and warships, maps have been the weapons of imperialism', it is doubtful that such was their principal purpose or even an important one for the people who made them or had them made. While governments have been instrumental in the promotion and use of maps to say that, 'The history of the map is inextricably linked to the rise of the nation state in the modern

world' is to obscure many other influences on map making, especially in the later years of the Middle Ages and the Renaissance when the nation state did not yet exist nor had even been imagined. Medieval maps do show the size of towns or castles in proportion to perceived importance rather than actual size and use various symbols such as flags to indicate political identity so there were connections to power in what cartographers put on maps before the Renaissance. That fact only increases the danger of finding the authority of the state seeping into every symbol on every map all the time. Seeing the map as, ' ... a social tool, a tool of power that helps to impose a vision of the world upon a society at a given time and in a given place, embedding values, ideology, and subliminal meanings into what seems to be an objective statement of the real world', may describe the effect of those representations but at the same time may say little about the intentions or the thinking of the people who created the surviving examples of Renaissance cartography.

Maps are simultaneously unique and poly-functional. While each map embodies knowledge, ideas and values that are place-, time- and culture-specific, and each was intended to be used in a particular way, each type of map can serve a plurality of purposes. Dealing with such multivalent images at such a remove of time can never be simple. Yet perhaps with care it may be possible from what survives to infer some of the intentions of map makers and their patrons, and in those intentions find indications about how the map-makers perceived the dramatic and transforming contemporary changes in geographical knowledge and how the map-makers articulated, in at least one form, their expanding and novel relationship to the rest of the world.

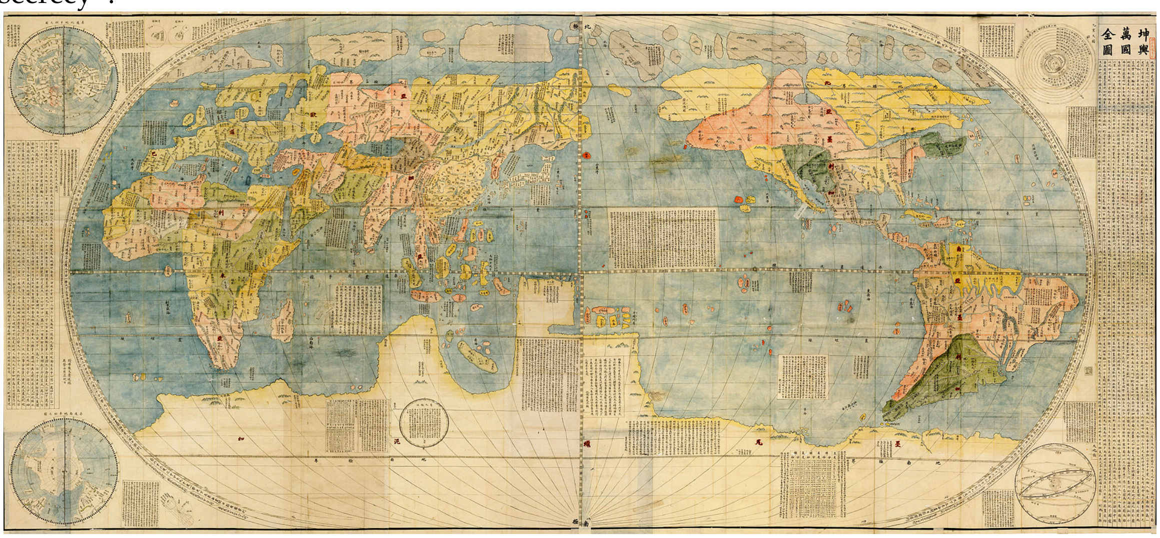
Intentional Silences

With respect to the first category, the intentional silences, Harley, wrote that Throughout the history of modern cartography in the West ... there have been numerous instances of where maps have been falsified, of where they have been censored or kept secret, or of where they have surreptitiously contradicted the rules of their proclaimed scientific status. And Mark Monmonier wrote that the early policy of secrecy proved difficult to enforce and soon maps became subject to censorship and falsification. Cartographic disinformation has long been a weapon in political propaganda, military counter-intelligence and covert diplomacy. Maps can be often considered "weapons of war" and the falsification of maps is a legitimate *ruse de guerre*. However, such Machiavellian arts have not been confined to wartime, particularly in an age when there was very little peacetime. Falsified maps can be a weapon for all seasons, to be used against all rivals, political and commercial.

By the 16th century literary censorship of various kinds was a common aspect of European culture as the emergent nations struggled as much for self-definition as for physical territory. It will be shown here how the production of cartographic knowledge was similarly controlled, selected, organized, and redistributed according to definite procedures and purposes. Even in many ancient and traditional societies maps were frequently regarded as privileged knowledge with access given only to those authorized by the state or its ruler. By the early modern, period, cartographic secrecy (maintained by what may be defined as rules of exclusion and prohibition) was clearly widespread and the 'official' cartography of this period furnishes a c1assic case of 'knowledge' is power.' At the very time maps were being transformed by mathematical techniques, they were also being appropriated as an intellectual weapon of the state system. It was because maps were by then recognized as visual language communicating proprietorial

or territorial claims/rights in both practical and symbolic senses. In cartographic terms however, the exercise of such power could be negative and restrictive. The map image itself was becoming increasingly subject to concealment, censorship, sometimes to abstraction or falsification, It is these deliberate manipulations willed by individuals, groups, or institutions, that give rise to the category of intentional silences.

Of course, one has to reconcile the issue map by map, by studying and analyzing these intended cartographic silences within the complexity of different historical contexts. The circumstances which led princes, both secular and ecclesiastical, and their advisors to control cartography by means of censorship and secrecy spanned a wide range of their vital interests. These could be military, commercial, or religious. So, for example, on Jesuit Matteo Ricci's world map published at Peking in 1602 *(#441- these numbers reference separate monographs on my website www.myoldmaps.com),* the sacred places of Christianity are suitably annotated while those of Islam appear without comment, the reason for Ricci's silence being that he knew the Chinese would be unlikely to be drawn to the religion he was preaching if they knew that deep fissures of belief existed in the Western world from which that religion came. So this intentional cartographic silence can be further divided into "strategic secrecy" and "commercial secrecy".



Father Matteo Ricci's 1602 world map Kunyu Wanguo Quantu 坤輿萬國全圖 *(#441)*

Some of the most clear-cut and obvious cases of an increasing state concern with the control and restriction of map knowledge are associated with military or strategic considerations. Like today, in the Europe of the 16th and 17th centuries hardly a year passed without some war being fought. Maps were objects of military intelligence; statesmen and princes collected maps to plan, or, later, to commemorate battles; and military textbooks advocated the use of maps. Strategic reasons for keeping map knowledge a secret included the need for confidentiality about the offensive and defensive operations of state armies, the wish to disguise the thrust of external colonization, and the need to stifle opposition within domestic populations when developing administrative and judicial systems, as well as the more obvious need to conceal detailed knowledge about fortifications.

But besides these understandable and practical bases for military secrecy, an increasing number of states adopted a more "custodial" altitude towards maps of their

cities and territories in general independent of such strategic considerations. The Dutch merchant Isaac Massa, for example, who was living in Muscovy in the late 16th century, found it difficult to obtain maps of both Moscow and the Siberian territory because it would have been a capital offence for anyone to supply him with such maps. In the same century, the *Bol'shoy Chertyozh* map (which shows the whole of the Muscovite state) seems to have been drafted in only one copy and to have remained wholly unknown to western European mapmakers. Similar policies have been common throughout Europe and can he found, for example in Prussia in the 16th and 17th centuries; in late 16th century Italy (map of the Kingdom of Naples); in 16th century Spain (the *Escorial* atlas); in 17th century Switzerland (Hans Conrad Gyger's map of the Canton of Zurich). Herein lies one of the paradoxes of map history. Just as the printing press was facilitating the much wider dissemination of cartographic data, and just as regional topographical maps were being made for the first time, so, some states and their princes were determinedly keeping their maps secret through prohibiting their publication and distribution.

The rise of map secrecy in Renaissance Europe was also associated with a second theater of geographical activity, that of commerce and the rise of monopoly capitalism. In a period when the foundations of the European world economy and its overseas empires were being laid down, absolute monarchs were often also "merchant kings" pursing economic objectives through the trade monopolies opened up by their state-sponsored explorations. As in the case of the nation state, the essence of empire is control. For such commercial monopolies to survive and for the policies of *mare clausum* to be implemented, there had to be a monopoly of the knowledge which enabled the new lands and the routes to and from them to be mapped, Arguably, the process of monopolization of map knowledge paralleled the secreting and use of craft mysteries in the control of medieval guilds.



Chart of the Atlantic by Bastiam Lopes, 1558 (#388)
This map was clearly intended to remind the viewer of Portugal's newly acquired power and empire. The presence of its rival, Spain, is alluded to only by the banners with Spanish arms along the western stretches of the Amazon. By contrast there is a realistic depiction of Lisbon in the middle of the Iberian peninsula. In northern Africa, two mounted Portuguese are shown routing a couple of Moorish horsemen. In Brazil, identified by the Portuguese arms, a native is shown chopping down a redwood which had already become an important export commodity, while a bird of paradise flies nearby. Sierra Leone in West Africa is indicated by a lion looking towards the principal Portuguese strongpoint, St George's Fort in Minah, which played an important role in the slave trade. Further to the south is a cross before a church facade, serving as a reminder of the importance of the missionary activity that accompanied Portugal's commercial and colonial expansion.



Planisphere of Domingos Teixeira, 1573 (#399)
It is one of the first full world maps showing the spice routes, both the Portuguese route of Vasco da Gama, following the east route and the Spanish route towards the west, discovered by Ferdinand Magellan and shows the Terra Magellanica not yet circumnavigated by Diego Ramirez de Arellano who christened it Isla de Xativa. One can see the scope of the Tordesillas meridian, both on the side of America (Brazil) and at the opposite side of the world at the Philippines, that according to the Treaty of Zaragoza should belong to Portugal, as they are in the "Portuguese hemisphere". However, it is surprising to see that the supposedly Castilian colonization and exploitation territories are represented with the four bars of the Catalan monarchy. The profusion of national flags indicates that territorial rights/claims are a dominant theme of the map.

The mechanism by which vital cartographic information from nascent overseas empires was censored, regulated and secreted varied considerably. In some countries it was an *ad hoc* process linked to individual voyages. This seems, to have been the case in England where contemporary writers on the expeditions were aware of the practice of censorship and knew that new knowledge was controlled in a few powerful hands, those of the sovereign, an inner circle of ministers, or the principal merchants and navigators involved the venture. Beginning with Columbus, Vespucci, and Magellan the charts developed during and after their exploratory voyages were sequestered and classified as secret. Also, for example, the sketch maps and drawings brought back by Drake's voyage around the world (1577-80) became secret documents. Drake had been given express orders that "none shall make any charts or descriptions of the said voyage", a prohibition of publication that was to remain in force until 1588.

Much more elaborate were the bureaucratic systems set up by the crowns of both 16th century Portugal and Spain to regulate the overseas trade and the knowledge on which it depended. Maps quickly became key documents in the launching of the Luso-Hispanic empires. While both the extent to which the Portuguese policy of secrecy actually existed and its effectiveness have been the subject of heated debate, the evidence does suggest the length to which a self-interested and powerful monarch might go to control and suppress sensitive maps. For instance, the penalty for pilots giving or

selling charts to foreigners was death. Measures were taken, late in the 15th century by John II of Portugal (1481-1495) to exclude foreigners, especially Genoese and Florentines, from all Portuguese territory, while the Cortes of 1481, in relation to the West African navigation, is said to have *"demanded severe measures for maintaining the secret of the discovered lands. The documents were sequestered; to record new lands on the maps was forbidden; the nautical works became secret books; prohibitory tales were spread; and the navigators forced to keep the oath of silence."*

By the beginning of the 16th century, Portuguese control of cartographic knowledge had been further tightened by the establishment of a "hydrographical repository" within the "Storehouse of Guinea and the Indies" (*Armazem da Guine e Indias*). This group clearly exercised censorship functions. A royal charter of 13 November 1504 prohibited the making of globes and forbade nautical charts to depict the West Africa coast beyond the Congo River. Charts not complying with this provision were required to be taken to an officer of the hydrographical repository to be cleansed of such detail. Moreover, such an organization made it possible to insist that nautical charts issued before a voyage were handed back on its completion while the duty of another official was to screen intended recipients lest there might be objections to their handling of charts. Contemporaries alleged the deliberate falsification of charts; it is easy to see how it could have come about in both Portugal and Spain.

The Treaty of Tordesillas

In the late-15th century, Portugal and Spain were the leading imperial powers who pioneered European expansion to the surrounding continents. They were especially interested in the East Indies and, of course, in the Americas.

This brought Spain and Portugal into conflict. In May of 1493, Pope Alexander VI, who was Spanish by birth, issued a papal bull that granted (very vaguely) all land one hundred leagues west and south of the Azores to Spain. Portugal strenuously objected, not least because they had already encountered land in what is today Brazil.

To address Portuguese claims, in 1494 Spain signed the *Treaty of Tordesillas* with their neighbor. This created a new line of demarcation 370 leagues west of the Cape Verde Islands, which were Portuguese. This granted Spain the majority of the Americas, but allowed for Portugal to claim the eastern thrust of Brazil. They were also allowed to claim land to the east, as they had already made significant strides in navigating around the coasts of Africa.

However, this vague line of demarcation was not enshrined in longitude and was therefore open to a wide degree of interpretation. Additionally, the line applied principally to the western hemisphere; it extended from pole to pole, not around the world. Particularly after Magellan's circumnavigation in 1520, although Magellan himself died in the Philippines, it became clear to the Iberian powers that they would have to revisit demarcation yet again.

The following historical episode, which extends from about 1516 to near the end of the 16th century, illustrates the dramatic impact of distortion on navigation and cartography by political cartographic manipulation. In 1517 the Portuguese nobleman and navigator Fernão de Magalhães (Ferdinad Magellan) arrived in Seville with an irresistible proposal to the young Spanish king Charles I: to reach the Moluccas, where the valuable clove was produced, by sailing west, and demonstrate that the islands were situated in the Spanish hemisphere according to the terms of the *Treaty of Tordesillas*. By that time nobody cared about the fact that such a line could be extended to the other side

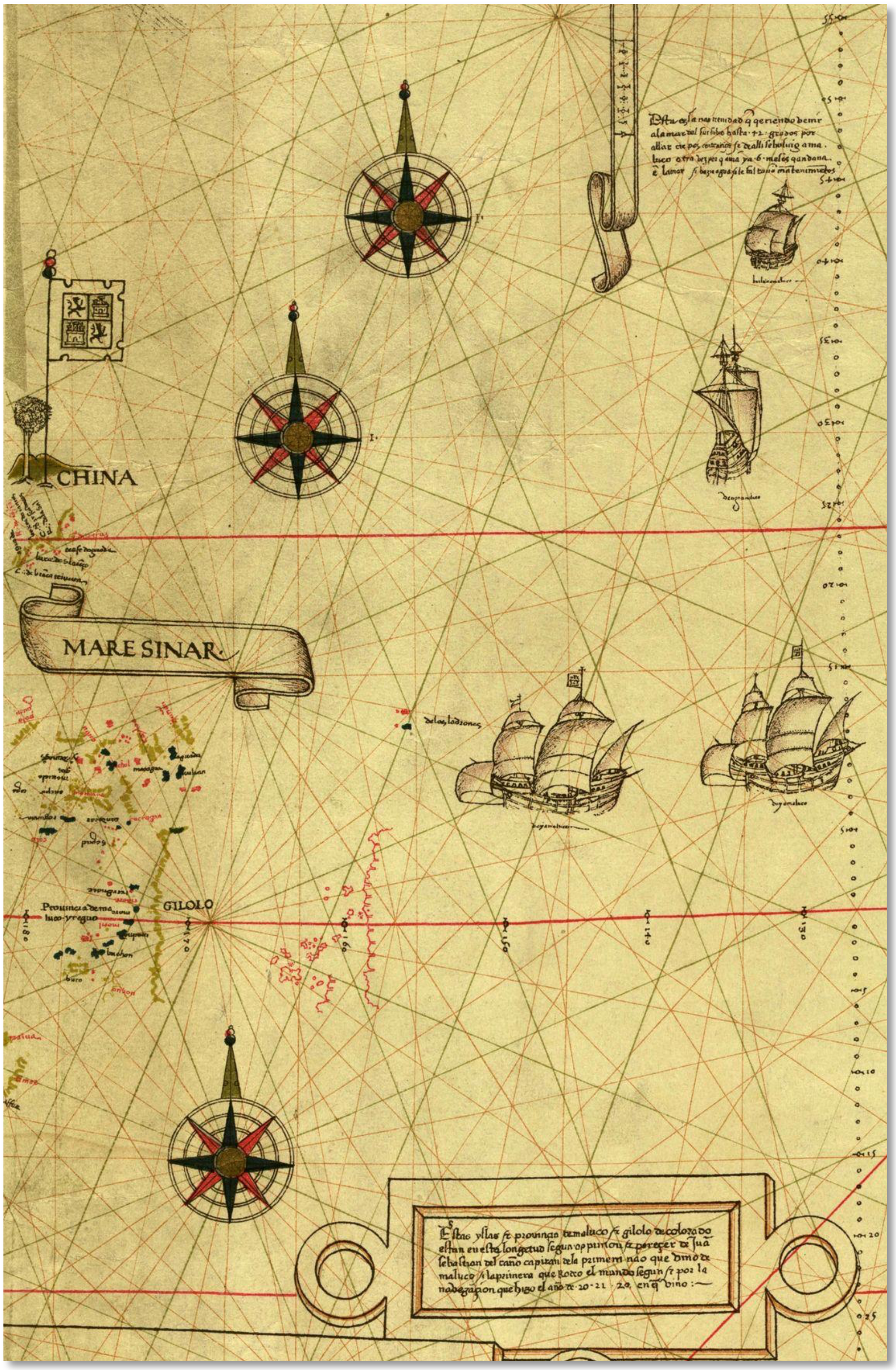
of the world, thus diving its surface in two hemispheres because such ambiguity obstensively favored both parties. This issue only became relevant when the Portuguese conquered Malacca, in 1511, and started to explore the trade of cloves. It was then realized that the northern Moluccas were located very close to the antipodes of the *Tordesillas* line. In the anonymous nautical planisphere of c.1519, known as *Kunstmann IV* (lost during World War II), it is considered to having been ordered by Magellan to the cartographers Pedro and Jorge Reinel, to be offered to Charles I. In this lavish map the world is represented, as it was known at the time, from the eastern coast of China, on the right, to the Moluccas islands, on the left. For the first time in nautical cartography the whole equatorial perimeter is shown, including the Pacific Ocean. Also for the first time, the Equator is graduated in degrees of longitude: 184 degrees eastward of the *Tordesillas* line (which is the central meridian on the planisphere) and 184 degrees westward. This graduation was not made because of any navigational innovation involving measurement of longitude at sea but in order to emphatically show that the Moluccas were situated less than 180 degrees westward of the demarcation line, that is, in the Spanish hemisphere. Because that is known to be wrong, one might be tempted to consider that Magellan purposely adjusted the position of the islands as to persuade the king to accept his proposal. But that was not the case. On the contrary, and this is a recent result of cartographic historian Joaquim Alves Gaspar's investigation, the Moluccas are placed on this map at approximately the same position as they appear in the contemporary cartography, including the Portuguese charts. Not because the cartographers were incompetent but owing to the effect of magnetic declination on the apparent longitudes of the places, making Africa and all lands eastward of it to be displaced eastward. From the pilots' point of view there was nothing wrong with those charts, which were constructed on the basis of compass courses and used as instruments for navigation.

The following map is an anonymous chart of the Indian Ocean attributed to Pedro Reinel, of c. 1517, one of the earliest known depicting the Moluccas. If we measure the longitudinal distance between the Cape of Good Hope and the islands, in degrees, we find a value very close to the correct longitude difference. This fact made historians wrongly assume that the Moluccas were correctly placed, that is, in the Portuguese hemisphere. But when we combine this chart with another one of the same period showing the south Atlantic (the Maggiolo planisphere of 1516, #*328.2*), we arrive at a different conclusion: that, in fact, the Moluccas are situated a couple of degrees eastward of the antemeridian of *Tordesillas*. That is, in the Spanish hemisphere, almost exactly as they appear in the *Kunstmann IV* planisphere.

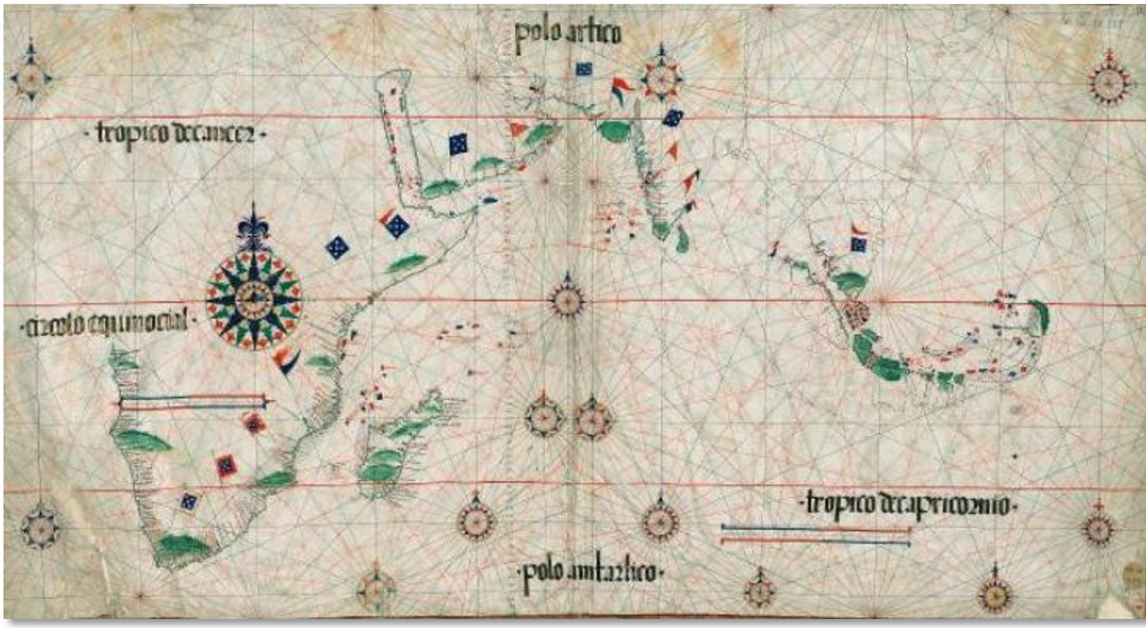


An 1836 facsimile of the Kunstmann IV planisphere, 1519, Jorge Reinel
This chart was the first to stake territorial claims using a cartographic feature that would be repeated on all planispheres produced by the Spanish House of Trade, differentiating them from Portuguese versions. Ships bearing flags from one of the two countries are shown in disputed regions, as a way to assert ownership. This map provides some insight into how big Magellan and his men imagined the Earth to be while navigating on their voyage. The estimated size of the Pacific is particularly interesting, suggesting the Earth's circumference was 13% smaller than it really is.

Following the return of Sebastian Elcano to Seville, in September 1522, the cartography produced in the Casa de Contratación continued to represent the Moluccas on the Spanish hemisphere, as in the *Castiglione* planisphere attributed to Diogo Ribeiro *(see #346)* apparently ignoring the longitude observations made by Andrès de San Martin that clearly placed the Moluccas in the Portuguese sphere. It was only seven years after Elcano returned, in 1527, that the political problem between the two crowns was finally settled in the *Treaty of Zaragoza*, where, as mentioned, the Spanish Crown acknowledged the Portuguese rights over the region, in exchange for a generous fee.



The Spanish flag flying over China in the 1529 world map by Riberio (#346)



1517 map of the Indian Ocean by Pedro Reinel

In his 1574 *Geografía y descripción universal*, Juan Lopez de Velasco explains how hard it is to discuss the boundary demarcating Spanish and Portuguese imperial possessions. This is because the inland and precise coordinates of the coastline of Brazil were little known, and the precise longitude of the Moluccas and other islands was subject to debate. Velasco places Maritime Southeast Asia too far east by nearly forty degrees. While informed by several sources, this was also a political calculation on Velasco's part; it granted even more land and resources to Spain, his employer and country of origin.

Like the Seville planispheres, López de Velasco's map of the Indies swims against the stream of that very long geographical tradition that had placed the Indies in the East. Like Ribeiro and his contemporaries in the Casa de la Contratación, López de Velasco tries to reorient the geographical imagination by making a new West, a Castilian West, out of some of the very places that defined what was meant by the East, the Orient, including the Spice Islands, China, and Japan. But López de Velasco is much more explicit about this than any of the cosmographers of the 1520s had been. For one, he does not depict the Castilian hemisphere as part of a world map. Instead, he crops the rest of the world away, and thereby saves his reader from the temptation of thinking that the parts of East and Southeast Asia claimed by Castile could be more naturally or convincingly depicted as the easternmost edge of Asia, rather than as the western shores of a trans-Pacific Castilian hemisphere. He then reinforces this gesture by giving prominent treatment to the line of demarcation and the anti-meridian, the firm boundaries that enclose the Indies, and by giving one of the regional maps a highly polemical name. North America becomes *las Indias del Norte*, South America, *las Indias del Mediodıa*, and the parts of Asia and the Pacific inside the demarcation become *las Indias del Poniente*, the ''Indies of the West.'' Once again, the ''East Indies'' of the geographical tradition became the Castilian West.

To draw a map more or less centered on the Pacific was to depart dramatically and decisively from the old notion of an *orbis terrarum* consisting of a tripartite disk of earth surrounded by a menacing ocean. It was to depart even from the cartographic

experiments of the early 16th century, which added a New World to the existing continents, and thereby rendered the *orbis terrarum* coextensive with the terraqueous globe.



Juan López de Velasco's map of the Spanish world, ca. 1575. This is the first map in an atlas showing the Spanish world in the 1570's. John Carter Brown Library. ,(#408)

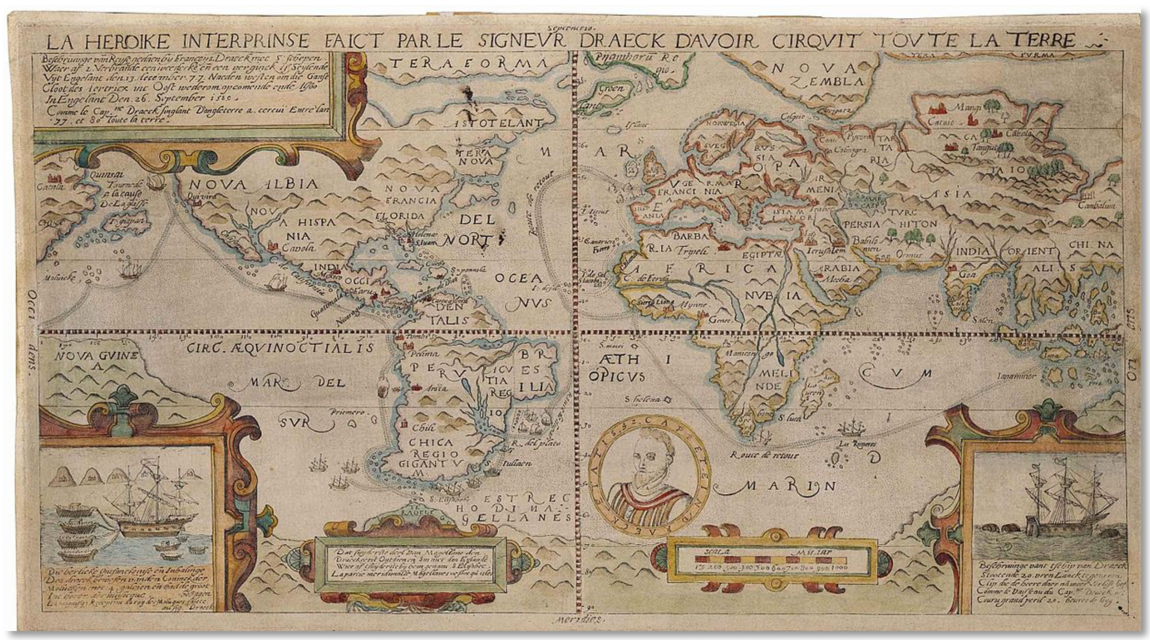
The Juan López de Velasco map *(#408)* illustrates the *Line of Demarcation* and the anti-meridian between the Spanish and Portuguese colonial claims (running through Brazil in South America and through China and the Malay Peninsula in Asia respectively). Through cartographic silence the islands of maritime Southeast Asia are shifted tens of degrees to the east, placing them (not surprisingly) under Spanish control. These include the Moluccas, so important for their spices and under Portuguese control, as well as the Philippines, which were claimed and occupied by Spain.



As mentioned above, by the 1520s, the main prize was the Spice Islands, or the Moluccas. Both countries laid claim to this archipelago. Charles V of Spain, however, needed money to finance his European wars. He married Isabella of Portugal in 1526. In 1529, he signed the *Treaty of Zaragoza*, which established an anti-meridian to the line of demarcation decided by the *Treaty of Tordesillas*. Portugal paid Spain 350,000 ducats for the islands and the anti-meridian was set seventeen degrees east of them.

However, these treaties did not settle the matter. By the *Treaty of Zaragoza*, the Philippines were within the Portuguese sphere, but these were occupied by the Spanish. Additionally, there was continued uncertainty and debate over the precise location of the original line of demarcation due to differences in longitude calculations. These continuing debates are reflected in this map, which locates the islands far to the east to benefit Spain. However, since many other European countries (i.e., England, France, Holland) were not involved with these treaties they ultimately ignored the demarcation and began colonization of areas on their own.

Whether it was the Spanish, Portuguese, English or Dutch, the attempt was made from a state and a commercial perspective to control and restrict the content and distribution of cartographic knowledge. However, as can be seen in the following two maps, the "secret" of Drake's voyage and route did not endure very long.



Nicola van Sype, La herdike enterprinse faict par le Signeur Draeck … (1581) showing Sir Francis Drake's circumnavigation

The Dutch East Company became, in effect, the state's surrogate organ, acting as a ministry with particular responsibility for the eastern colonies. Its map policy was especially cautious when the handing out of charts of newly-explored regions was in question. The practice was to supply pilots with these charts in manuscript and as required, and to check their return at the end of a voyage. Even private map company officials, such as Plancius and, later, Blaeu, were expected to exercise tight control, even to the point of censoring maps intended for publication. Consequently, maps associated with important voyages, such as those of Tasman to Australia, were effectively kept secret.

Nor were the Dutch monopoly companies alone in adopting such restrictive cartographic practices. In 17th century England after the Restoration, as trading companies became increasingly monopolistic in structure so they also tended to act as a brake on map publication, if not map-making itself. Once the Hudson's Bay Company (founded in 1670) had acquired its territorial monopoly, its substantial archive, including all the maps remained all but closed until the late 18th century because of the company's restrictive policies. These policies meant in practice that the company did not allow details of the geographic pattern of river ways, lakes, and the terrain to become known for the simple reason that such geographic data were considered crucial to the formulation and operation of its trading policies, and thus were commercial secrets.



Jodocus Hondius 1595: Vera Totius Expeditionis Nauticae showing route of Francis Drake's circumnavigation of the globe (1577-80)

Thus the forces impinging upon the cartography of early modern Europe were much more complex than the initially simple notion of power-knowledge allows for. A number of characteristics can be observed. For instance, while it can be claimed that secrecy has been endemic in the history of maps and mapmaking, as well as in the activities of monopolistic capitalism, there has been nothing neat or predictable in the timing or the geographical pattern of its imposition. We find that some periods are characterized by 'high security' while in others this has been allowed to slip. When the world limits of the Spanish and Portuguese empires were being demarcated, between about 1515 and 1529, control over secrecy was rigorously enforced, but later in the century laxity crept in. Another point is the way state policies have been inconsistent. Despite Spain's usual preoccupation with secrecy and control, cartographic caution was

thrown to the winds when Charles V of Spain wished to impress foreign crowns with propaganda maps showing the territorial extent of Spanish influence. Nor were the manipulations of one state always meekly accepted by its rivals. These rivals sought to obtain maps as much by espionage, theft and piracy as by direct observation and their own explorations. So, the Englishman Walter Raleigh's collection of New World maps, which had come mainly from Spanish sources, *included 'a secret mappe of those partes made in Mexico ... for the King of Spaine.'* Moreover, the strictest policies of cartographic secrecy could be undermined by the ease with which cosmographers and pilots, taking with them their specialist cartographic knowledge, entered the service of rival crowns. There are well-known cases of Portuguese pilots being lured into the more lucrative service of Spain, France or England while cartographers such as Cabot, Ribeiro, and Rotz are known to have been the agents by which once confidential maps were given wider currency. Explorers such Columbus, Magellan, Cabot, Verrazano and others sailed for who ever had the resources to support their expeditions. Even the *Padrón* of Spanish navigation did not remain secret forever and its contents were eventually published. Finally, and yet more remarkable, perhaps were the occasions when ideological conflicts about secrecy emerged in the very institutions set up to enforce it. It has been shown, for example, how there was a protracted debate and even litigation within the *Casa da Contratactión* over the role of patriotism in scientific argument and the role of secrecy in the growth of knowledge. In view of all this, we have to conclude that access to knowledge must be regarded as one of the more complex socio-legal dimensions that structured the development of cartography in early modern Europe.

Unintentional Silence

According to J.B. Harley the second category of silence on maps is the "unintentional silence". This is a silence that does not seem to have been "explicitly demanded" by the cartographic patrons of early modern Europe, yet that was nonetheless instrumental in the diffusion of state power. What commanded the unintentional silence was the play of rules that determines within a culture the appearance and disappearance of content elements on maps. So our concern here is with the absence or presence of categories of cartographic detail that cannot be explained by reference to either secrecy or technical factors, but by what Harley calls "historical rules" that are not merely theoretical but observable in forms which varied according to the particular social, economic, geographic or linguistic zone within which a map originated. These "rules" help to fashion two sets of discourse, the scientific, and the political-social, whose function is to structure the framework within which cartographic knowledge is created. The net result was that the cartographic landscapes of Europe became more generalized, more abstract and less differentiated in the mode of their representation. Their silences are those of the unique.

Examples of many different sorts of political and social silences can he found on maps from the early modern period. One category is the *toponymic silence*. Conquering states impose a silence on minority or subjugated populations through their manipulation of place-names. Whole strata of ethnic identity are swept from the map in what amount to acts of cultural genocide. While such manipulations are, at one level, the result of deliberate censorship or policies of acculturation; at another, the epistemological-level, they also can be seen as representing the unconscious rejection of these "Other" people by those belonging to the politically more powerful groups.

A similar reading can be made of the "silences" found in the keys to cartographic signs included on some maps in Renaissance Europe. On Mercator's map of Europe dated 1554, for example, the mapmaker chose to identify four ecclesiastical ranks: the Vatican (*Pontifex Romanus*), the patriarchal sees (*patriarchales*) the archiepiscopal sees (*archiepiscopales*), and bishoprics (*episcopales*), while remaining silent about the four or five ranks of secular status also differentiated and shown on the maps. By implication, the political power acknowledged here is the ecclesiastical one; small settlements (villages) at the bottom of the ecclesiastical hierarchy are of no consequence. Silence thus becomes an "active performance" giving affirmative support to the political *status quo*.

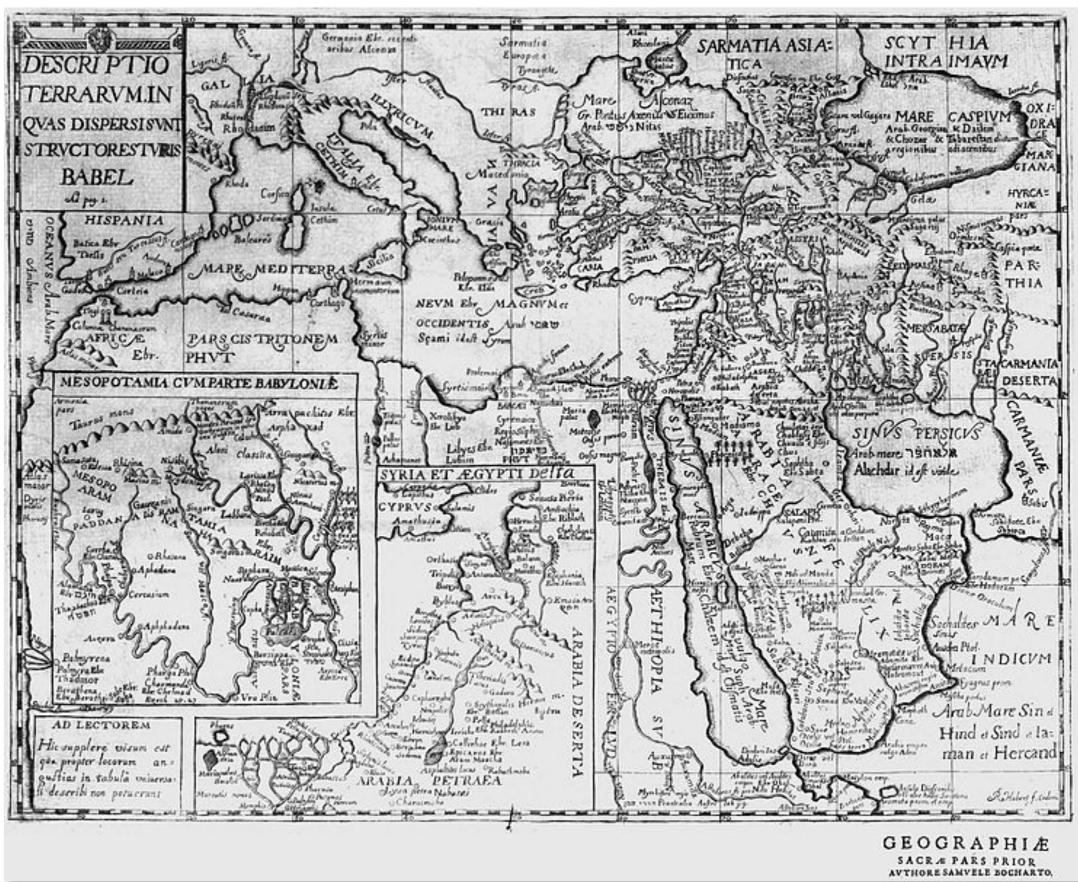


Atlas sive Cosmographicae by Gerardus Mercator, 1554

In yet another group of examples we can detect how maps were implicated in a discourse or promise, their silences reciprocating eschatological dimensions in the sacred books of particular sects or religions. Thus, in the depiction of the Holy Land inspired by Luther and Calvin, in which a *geographia sacra* was combined with geographic realism (the latter reflecting the scientific discourse in maps), it is events of the Old Testament and the Protestant message of 'Salvation History', epitomized by the Exodus route, which are emphasized. Left silent are the historical sites of New

Testament lore which feature so prominently in the *mappaemundi* of the Catholic Middle Ages.

The content and publication of maps was also sometimes structured by the religious schism and ideological battles of early modern Europe. The publication of books of town plans of Italy, for example, may have been inhibited in some areas by the aversion of Calvinism to representations of Catholic Rome. Similarly, it may be significant that the ecclesiastic rank of settlements is indicated more frequently on maps of regions south of the Alps (or on the maps of cartographers from countries in which the Roman Catholic Church remained in power, such a, Italy, Spain and France) than in the Protestant regions to the north. Sectarian splits are sometimes discernible in maps whose authors were hotly partisan to one doctrine, for instance through the map's silence about the churches and settlements of the other. On yet other maps, including *portolan* [nautical] charts, lands that the Ottomans had conquered were shown as if still in Christian hands, while Jerusalem was often depicted as Christian on some of the maps of the Middle Age long after its fall to Islam.



Geographia Sacra, Samuel Bochart (1599-1667)

Another type of silence can be found on maps of the New World, from the tendency to obliterate the uniqueness of the American landscape in favor of a stereotype, a tendency that is more difficult to explain. It could be, of course, simply the result of a lack of information. Faced with empty space on the sketches and drafts they were given as models, European map engravers would have filled these spaces with the

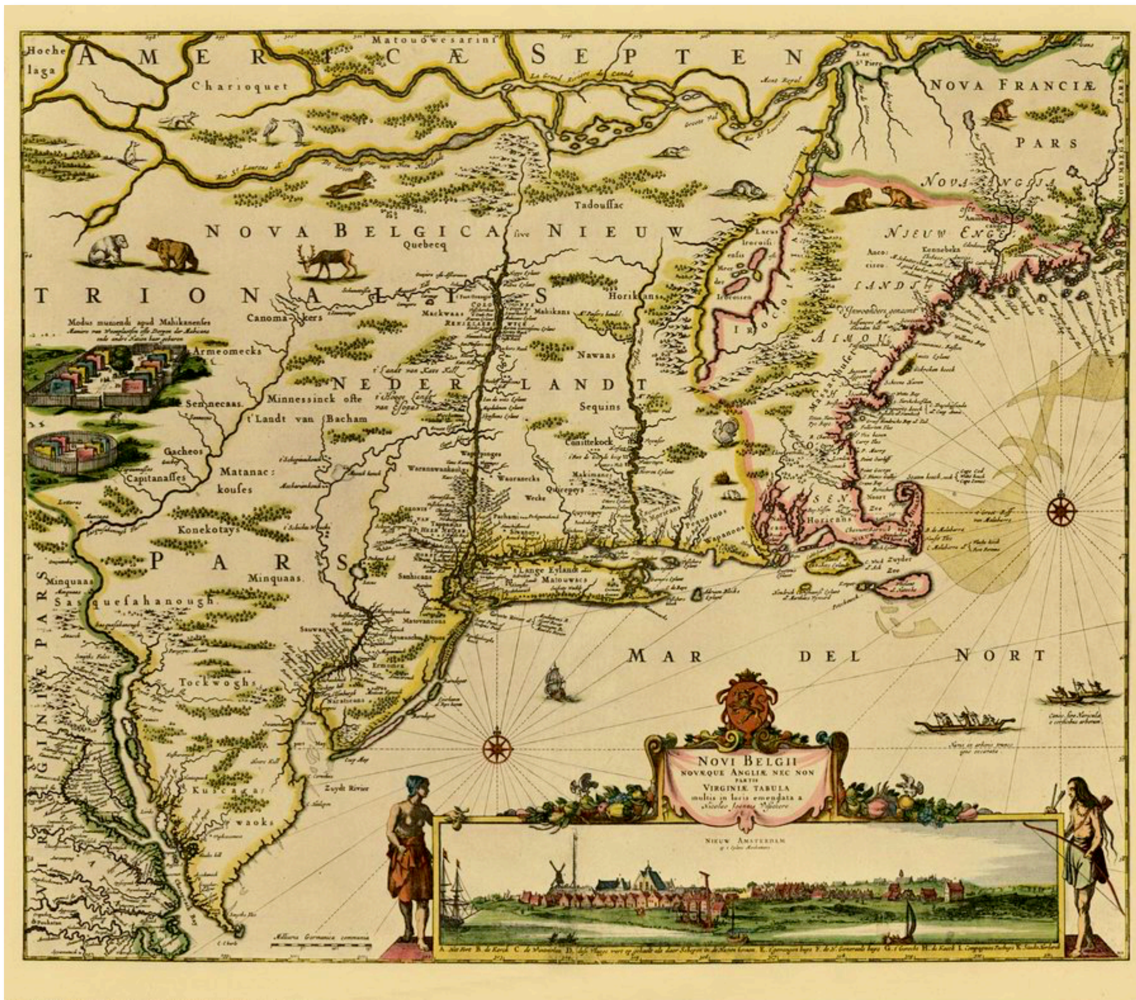
only landscape conventions familiar to them. Alternatively, the stereotype of the American landscape can be seen as a deliberate act of colonial promotion, designed to make the new lands more attractive to settlers or to tempt proprietors and potential investors. But we may also seek explanations of these silences in another direction, at the structural level of Foucault's *epistemes*. Thus, they would be manifestations of yet another way European scientific values were reflected in Renaissance cartography through, especially, measurement and simple landscape classification. So, we could be witnessing here, once again, the unconscious transposition into American geography of European values and preferences, this time in relation to the landscape. An example of this can be seen in the following 1606 map by Captain John Smith.



Virginia. Discovered and Discribed by Captain John Smith . . . 1606
London 1612-25 edition (#445)

This sort of cartographic silence becomes an affirmative ideological act. It serves to prepare the way for European settlement. Potential settlers see on the map few obstacles that are insurmountable. Least of all does the map reflect the presence of indigenous peoples and their imprint on the land: it is as if America were a stage tableau, with the arrival of Europeans as the raising of the curtain and the beginning of action. In short, such maps are ethnocentric images, and part of the apparatus of cultural colonialism. It is not only that they offer a promise of free and apparently virgin land, an empty space for Europeans to partition and fill, but that the image offered is of a landscape in which the Indian is silent or is relegated, by means of the map's marginal decoration, to the

status of a naked primitive. Through these silences, the map becomes a license for the appropriation of the territory depicted. It is yet another means by which to insist upon the inherent superiority of European technologies and European cultural ways of life. Below is another cartographic example.



Novi Belgii Novaeque Angliae Nec Non Partis Virginiae Tabula
By Nicholas Visscher, 1650 - 1684 Amsterdam (#476)





As in the history of cartography as a whole it would be possible to construct a broader typology of silences. Silences are contributed by many agents in the mapmaking process; through the stages of data gathering, to those of compilation, editing, drafting, priming, and publication. In assessing silences we must be aware not only of the

geographical limits to knowledge but also of the technological constraints to representation of the silences in the historical record owing to the destruction of evidence. However, here Harley is not concerned with those silences that arise from geographical ignorance, lack of data, error, the limitations of scale, deliberate design or other aspects of specification and technical limitation. Harley is dealing here with mostly intentional politically and commercially motivated silences. Thus we learn that that which is absent from maps is as much a proper field for enquiry as that which is present. As mentioned earlier, silences should be regarded as positive statements and not as merely passive gaps or the mere absence in the content of the map. Silence can reveal as much as it conceals and sometimes become the determinate part of the cartographic message.

Obviously no one map displays all of the cultural and/or physical elements of the area represented. Even a photograph of a geographic area has its limitations. That being said, the single map capable of depicting everything as it is, would be the famous map from the Jorge Luis Borges' 1975 short story *On Rigor in Science* - so accurate, that it showed the mapped objects in a live scale and in result covering them entirely. If the cartographer that does not wish to follow such an extreme example, conscious deliberate selection and simplification becomes a necessity. A typical wall map, as we know it from the geography school lessons, shows the world in scale of 1:700000. It is obvious, that an image so much smaller than the original object cannot depict everything, but the most essential features only. However, what are the guidelines that make it possible to decide which elements are deemed to be the most important? Are they always the same?

It should again be emphasized that the type of silence Harley is writing about is not a result of mistakes, geographic ignorance or some technical problems, but of the very nature of an utterance itself, i.e., the conscious selection process.

That does not mean, however, that the described phenomenon of silence is homogeneous. Cartographic silence consisting of all that was rejected, undiscovered, withheld and invisible on maps exists under various forms. Its character would depend on factors such as its graphical form and the origins or mental operations used to their creation. At the risk of sounding overdramatic, one could say that silences never sound the same and that every silence tells about something slightly different. As Christian Jacob, another author writing about a theory of the history of cartography noted: *"A map may display a view but it also provides the viewer with a point of view"*. Hence the famous blank spaces are simply a part of a much bigger problem. Their description should be viewed not as the main issue, but rather the opening point for the further analysis.

The horror of the void. This is a borrowed phrase used to describe the geographical and cosmographical imaginings observed in older societies; societies that go to great lengths to fill the unknown spaces of the world with places, whether they are the subject of conjecture, myth, or the whim of imagination. It is the anthropomorphic version of Aristotle's *horror vacui*: it is not nature, but mankind who abhors a vacuum. There is some obvious truth to this, for all societies attempt to make sense of their world, no matter how limited their knowledge or intellectual tools. But is this filling of the void the manifestation of a horror of that void—of anxiety and loathing—or something else? Perhaps it is not a sense of repugnance which makes humankind fill these voids, but a response to opportunity—the opportunity to affirm existence by creating an idea or an image that reflects how one sees self, community, civilization.

When ancient and medieval scholars imagined the biblical *Paradise*, they imagined it to be an earthly geography like the most beautiful parts of Europe, except

more wondrous and perfect. When St Augustine imagined the southern hemisphere in the fifth century, he rejected the idea of *Antipodeans*— because for his Christian world to exist no other civilization could. The images of the world found in classical and medieval maps and books have a limited relationship to empirical inquiry. Rather, they demonstrate the subjective projection of the world as it was desired—and sometimes required—to exist, as determined by a given milieu in time and space. *(see separate monographs on the display of Paradise and the Antipodes on early maps on this website)*

Thus, there is no horror of the void to be found among classical or medieval geographers and cosmographers. The world appeared to these societies not as a ghastly vacuum, but as a *palimpsest*: a vehicle through which religious, cultural, cosmographic, geographic, cosmological, and historical ideas were expressed. If the earth you inherited from your peers and forebears was not equal to your purpose, then you could erase those parts that did not serve your designs or disagreed with your ideas, and inscribe your own in their place. There was little in the way of hard empirical geographical data to limit the earth's malleability; much more limiting was an individual's own precepts, be they religious, historical or otherwise. Thus, the world was a *palimpsest*: inscribed, erased and re-inscribed, a different story told in every telling.

The most obvious and easiest to recognize type of cartographic silence concerns mostly maps of the newly discovered and still unknown lands during the 16th century, many of which were created in Europe during the early Renaissance period. The *horror vacui* [fear of an empty space] allures and intrigues. It demands to be filled. It is an absence of something, but also a room for something new to appear, an unknown possibility, a challenge, a mystery or an invitation to explore. A promise. The silence of a blank space acknowledges its own existence and by doing this unveils the incomplete character of the image. At the same time its presence next to depicted space catches the eye and encourages it to act, to complete the image. It signalizes the temporary and open character of the picture. The examples of the maps that purposely leave unfinished the outlines of the less known lands seem to belong to the same category.

Interestingly enough, there is almost complete absence of practice of this kind on the maps created before the early Renaissance. On the contrary to common belief, cartographers working after the Age of Discovery were much more inclined to leave empty spaces on the maps than their predecessors, who knew fewer landmasses. It was in 15th century too, when the inscription *terra incognita* [unknown land] becomes popular on the cartographic documents. Although the medieval cartographers debated on the possible existence of the *Antipodes*, short of the simple *Macrobian* schemes illustrating the range of climatic zones on the Earth *(see #201)*, they did not tend to leave the room for them on the maps. The surfaces of the great, heavily wrought, detailed maps of this period (the *Hereford #226,* and *Ebstorf #224 mappaemundi*) are entirely covered with pictures and inscriptions placed one next to another. Every scrap of space within the world's circle is crowded with information. The world on the medieval map is organized and finite.

When seeking the meaning and purpose of medieval maps, one cannot assume that European medieval maps were used for the same purposes or had the same meaning as they do today. The differences in structure and content are clues that lead us to imagine how medieval makers and readers of maps saw the world. Another place to look is the context in which maps appear, for a majority of surviving medieval maps appear in books, surrounded by written works and other diagrams. These accompanying materials can tell us much about the role of maps in medieval thought

and society. Evelyn Edson, in her book *Mapping Time and Space*, puts forth this thesis that a study of the context of medieval maps in books reveals that many were designed to encompass concepts of time (i.e., history) as well as geographic space. Such an idea has also been broached by the German scholar Anna-Dorothee von den Brincken. Looking at maps themselves, particularly the larger world maps, she says their goal is to *"portray the course of universal history together with totality of historical space"*. Von den Brincken's theory helps explain the persistent inclusion of places from the historical past on medieval maps. The city of Troy, the *Garden of Eden*, *Noah's Ark*, and the route of the Israelites from Egypt to Canaan were as consistently shown as physical features, such as the Pyrenees, or places of contemporary significance, such as the cities of Jerusalem and Rome. It also helps explain why some medieval maps were referred to by their makers as *'histories'*.

That does not mean, however, that there is no room for the unknown and cartographic silence on these maps. It simply appears in another form, possibly the more difficult to point out and recognize. As mentioned, one should take care to remember that the medieval *mappaemundi* [world maps] served different purposes than modern maps, focusing rather on the symbolic/historical/religious meaning tied to particular locations than simply on showing their physical appearance and shapes.

Including blank spaces for unknown territory may seem to be the most straightforward cartographic strategy. By acknowledging limits of his knowledge, a mapmaker declares himself unable to create an object that could be used as a universal compendium of knowledge about the world. On the other hand, by anchoring this to use Joseph Conrad's words – *"blank space of delightful mystery"*, or as Ricardo Padrón calls it *"positive emptiness"* and tying it to the specific point on the map the impression of the credibility of the adjoining depicted parts can be reinforced by comparison. The unknown is literally localized (linked to the particular location). It becomes enclosed within the limits of the blank space; the mystery captured and mapped.



Typus orarum maritimarum Guineae, Manicongo, & Angôlae ultra promontorium Bonae Spei {The Description of the Coast of Guinea, Manicongo, and Angola, and so Proceeding Forwards beyond the Cape of Good Hope, with all the Harbors, Islands, Cliffs, Sandbars, and Shallows], Arnold Florent van Langren, 1596. An extreme/typical example of horror vacui.



The Hereford mappamundi, 1290 oriented with East at the top (#226)
An extreme/typical example of horror vacui.



The Ebstorf mappamundi, 1234 oriented with East at the top (#224)
An extreme/typical example of horror vacui.

A special case is the decision of medieval and Renaissance cartographers to depict the *Terrestrial Paradise* on their maps, and, if so, where? Much has been written about *Paradise*, a.k.a. the *Garden of Eden,* both in the past and in recent times. A wide range of questions have consequently been addressed, including such "esoteric" issues as the nature of the flora and fauna in Eden, the dimension of the marvelous *Garden of Delights*, the exact chronology and the amount of time which Adam and Eve were allowed to spend there, and even the language which was spoken in *Paradise* at this early period of human history. But, overall, the principal point which has traditionally attracted the attention of scholars is the problem of its location. Where was *Paradise* to be found? In this regard, considerable number of different locations have been proposed. Besides its traditional whereabouts in the "East", as *Genesis 2.8* seems to suggest, one can find scholars arguing for the idea that *Paradise* was located in the Far East, the West Indies (Americas), Mesopotamia, Armenia, the Holy Land, Africa and even at the North Pole.



Zonal world map from Liber Floridus
(Herzog-August Bibliothek, Wolfenbüttel, Cod. Gud. Lat I, folios 69v-70r)
Lambert St Omer, 12th century 41.3 cm diameter, oriented with East at the top. (#217)
At the eastern edge is located the Earthly Paradise [Paradysus terrestris] illustrated in the form of a sun inside which we find the reference to Enoch and Elijah (paradysus terrestris Enoc Hefyas), given that, according to the biblical texts, God took these individuals there without their having passed through death. From this place, the four rivers of Paradise flow which change into earthly ones so as to irrigate Asia. On the right the large landmass represents the mysterious Antipodes.

The *Antipodes*, the western pole of the globe according to the *Lambert St Omer* map, has the *Earthly Paradise* as its counterpart at the eastern pole (likewise off-center). The island of *Paradise* surrounded by flames is, thanks to the *Fall*, inaccessible to "us", that is, to humanity. Yet *Paradise* remains connected to the inhabited world through the four rivers flowing from their source in Eden. Just as the *oikoumene* [known, inhabited world] seems visually to pour out of *Eden*, so too are its populations generated from Adam and Eve. In contrast, the *Antipodes* are completely cut off.

These maps by Lambert, however, only indicate the 'third' and 'fourth' continents (those of the Western Hemisphere) by placing little circles in the margins of the *Roman World*, or *Habitable Earth*, respectively entitled *Paradise*, to the northeast, and *Our Antipodes* to the southwest. The idea of an undersea course of rivers from a trans-oceanic *Paradise* to the *oikoumene* was a common belief during the Middle Ages (see Cosmas Indicopleustes, #202). "*Our Antipodes*" is clearly to be understood as the continental masses exactly opposite to Europe and Africa on the other side of the globe,

inhabited by living (but apparently not human) beings, and having a day and night in an 'opposite relation' to those living in Europe; while the island of *Paradise* is probably to be interpreted, in the same way, as precisely antipodean to the Australian continent. The graphic expression of these ideas in Lambert's maps derives from several sources. First there is the suggestion of a *T-O* form in the general contour of *'Our World'*. Speculations of a much higher antiquity can be traced in the apparent indication of the *ecliptic* in both the *Ghent* and *Wolfenbüttel* world maps (in the form of a crooked line running over the Equator and marked by three star-pictures), the obliquity of the sun's path is clearly suggested. Thirdly, of course, is the probable source of earlier world maps by Macrobius and/or Martianus Capella (*#201*).

Lambert has drawn a detailed world map in a "zonal" format. East is at the top with *Paradise* a small sunburst to the left of top center, with rivers (Tigris, Euphrates, Nile Ganges) flowing from it into Asia. The large landmass just to the lower right of center is the *Antipodes*. The two landmasses shown are divided by the ocean crossed by the solar ecliptic. On the right a text describes the *'temperate southern continent, unknown to the sons of Adam'*. The four rivers are shown streaming from *Paradise*. They are not named on the map, but they are discussed elsewhere in the manuscript.



Detail of Lambert's mappamundi showing Paradysus terrestris as an island connected by the four sacred rivers

Even so, intentional cartographic silence (because this is the kind of silence blank space) is not always something that could be associated with the mapmaker's honesty. As mentioned above, a Portuguese royal edict from 13 November 1504 prohibited producing globes and nautical charts that depicted the west coast of Africa beyond the river Congo. According to the new law, maps that did not follow these rules should be delivered to an officer of the hydrographic repository to remove said details.

The practices described above make it easy to understand why Harley places cartographic silence in context of Foucault's concept of "knowledge is power" - while interpreting it. There are of course many more examples of cartographic concealments with political undertones. It is not enough space here, nor is it an aim of this monograph to enumerate them all. Still, to show that not all cases of political/commercial silence

had to be rooted in a desire to gain money or power, but in personal sympathies and views as well, let us recall one more (perhaps one of the most spectacular) example - the cartographic attempt to feign total ignorance of the expansion of the Ottoman Empire by persistence in not marking the new territorial divisions on the maps.

Aside from the intentional cartographic silence, there is a whole huge area of the *unintentional silence* - often uncontrolled or even unknown to the mapmaker himself. Referring to another Foucault's concept, Harley calls this type of silence *epistemological* as opposed to *political* silence. It includes "the 'unthought' elements in discourse; everything that has been omitted from the map, not because of a deliberate act of censorship, but simply because they escaped notice or interest of its creator. Such silence is already enclosed in the very structure of the image. It does not have to be tied to a specific location, it can, for example, affect certain type of objects displayed or not. Outwardly it may seem that such excluded or overlooked elements will appear (or rather, not appear) in the areas that do not weigh much for the entire picture - after all, if they did, why would the cartographer neglect to take them into consideration? This would be, however, a hasty conclusion. As an argument for the appreciation of the importance of such silence, two different examples may serve:

1. Medieval Cartography. The most popular type of the image of the world of this period is based on the graphic diagram (so called T-O scheme, *see #205*) and it portrays the Earth as a circle consisting of the three continents: Asia, Europe and Africa. As mentioned above, such visual scheme leaves no room for undiscovered lands. Upon closer scrutiny, however, it turns out that these maps do not show the whole world, but only a part of it, namely the known inhabited areas - the *oikumene*.
2. According to the ancient theory of climatic zones, which was widely believed in the Middle Ages, the surface of the Earth can be divided into five climactic zones (the *Torrid Zone* and spreading symmetrically on both its sides two *Temperate* and two *Frigid Zones*), of which the only *Temperate Zone* characterizes livable conditions for humans. And because of the deadly high temperatures, that make it impossible to cross the equator, travelers can only go so far as reaching it, but never crossing and do not go to the south of it. Hence, the map of the inhabited world shows only the northern hemisphere. As a result, the entire southern hemisphere becomes excluded of the cartographic picture. This theory was emphasized particularly in the *Macrobian* maps *(#201).*

As we can see, the silence here is located differently than on the modern map: neither between the elements (blank spaces), nor at the edges of the image (disappearing contours), but on the opposite side of it in the *Antipodes*. This seemingly slight visual shift has huge implications for the semantic sphere.



A typical T-O map of the oikumene from L'Image du monde, 6 x 6 cm, 13th century, Gossuin de Metz (#205) BnF, Manuscrits (Fr 1607 fol. 43)

The world on a modern map is open and susceptible to the exploration. Its image is culturally dynamic, politically temporary and liable to frequent changes. The image of the world in medieval cartography, however, was much more stable and harmonic. In fact, even though the precise travelers' maps admit the limitations of their knowledge, the number of blank spaces is, after all, finite; to fill them is an ambitious project, requiring a lot of time and effort, but still, most certainly a realistic one. In fact, it is after all only a matter of time before travelers visit all unknown lands and recount their travels. This raises hope (or even expectation) for the moment, when the last sign would be drawn and we would see the complete image of the world.

This kind of hope is unfamiliar to the medieval mapmaker. The equator is (quite literally) a dead-line; absolute limit, closing the access to the areas beyond it. Nothing that lies outside can be known by means of empirical experience. As C. S. Lewis said "You could write science-fiction about it, but not geography. Exactly half of the world is shrouded in mystery."

Seeing as the foregoing examples could give impression that there is a simple connection between the types of silences (intentional-unintentional) and the historical periods, it is worthwhile to present the second example of the epistemological silence now, which would show that it can appear on the early modern maps too.

During this time new types of maps approached the problem of depicting space differently: lying stress on precision in mimicking the shape of the shore and outlines of the lands; introducing visual elements such as scale and grid (or *loxodromes* in the nautical charts). The images have become more and more standardized with the objects

represented by the system of universal symbols. Medieval appreciation for curiosities, manifesting itself in filling maps with profusions of legends, the plethora of objects and figures falling within the broad category of *mirabilia mundi* [wonders of the world], gives way to changes from portraying places rather to depicting space. Cartographic landscapes become more and more similar. This kind of silence affects the unique in favor of the typical.



A manuscript on vellum Macrobius world map, 11th century, 12 cm diameter (#201)

Perhaps, however, it is this illusion of objectivity of maps and the neutrality of their language that makes it difficult to acknowledge the fact their final appearance depends on the influence of the historical and cultural habits of perception and hidden presumptions that shaped them. And yet as Jacob reminds us *"Maps construct their own worlds through the filtering, translation, and hierarchical and taxonomical organization of data"*.

It is easy to dismiss silence in analyses for the simple reason: what does not exist cannot be seen. Yet, the question is, can this statement be reversed? Are we, as users of

maps, not tempted to automatically assume validity of this opposite statement, which, in this case, would be: what cannot be seen does not exist?

The examples presented in this monograph show only some of the possible ways in which cartographic silence can occur on maps; and what is important, is that discussing them serves to demonstrate how the differences in both form and content of the maps can influence the eventual image of the world as a whole.

In summary, let us hear from the Venetian monk, Fra Mauro from 15th century *(#249),* who wrote in one of inscriptions on his magnificent *mappamundi* these words showing a surprising degree of self-awareness even for today's standards: *This work -- is only fulfilling the duty rather than completing the task, because it is not possible for the human intellect to verify fully the cosmography or a map of the world without some higher intervention.*



Copy of the Fra Mauro mappamundi by William Frazer: London and Venice, 1804
Manuscript on vellum: BL Add. MS 11267 (#249)

The *Terrestrial Paradise*, beautifully depicted by, perhaps, Leonardo Bellini, on the Fra Mauro *mappamundi* is exiled beyond the map to the bottom right where an inscription tries to establish its actual physical location. The legend on the map reads (in translation):

The Paradise of Delights does not only have a spiritual meaning; it is also a real place on the earth, as St. Augustine says in his De Genesi and in his book De Civitate Dei. This place is very far from all human settlements and knowledge; and according to the teachings of the holy doctor Bede, whose authority is also followed by the Master of the Sentences [Peter Lombard], it is to be found in the East. In his book De natura loci, Albertus Magnus also puts it in the East, beyond the circle of the equinox. In this Paradise was placed our first parent, Adam, in a state of innocence. And in the middle of Paradise there was a spring that waters it, and from which arise the four main great rivers. And God had planted it with two trees, one of which was the Tree of the Knowledge of Good and Evil, bearing the fruit that God had ordered Adam not to eat. However, straying from that commandment, Adam did not obey and he ate the fruit. Hence, as well as the Good which he had already seen before, he also felt Evil, and he fell into the defects that are implicit in sin. And from this fact that tree has been called the Tree of the Knowledge of Good and Evil. The other tree is the Tree of Life, eating from which man could have nourished himself for a long time. In fact, if this had been his constant nourishment, man would have lived forever, as St. Augustine says in the book De civitate Dei and also De diversis quaestionibus. It is believed that Enoch was placed in this Paradise and transported to heaven, and one can read of his ascent in the fourth chapter of Genesis and also in Ecclesiastes. Similarly, it is believed this happened to the prophet Elijah after he was carried up to heaven, and this is recorded in the fourth book of Kings. It is also believed that here the souls of the Holy Fathers were visited by the Redeemer on Good Friday after his death; and that, with them, the soul of our Redeemer, united with God, descended into Limbo until the day of his Resurrection; and that the Fathers were freed from the bonds of Original Sin and placed in this Paradise until the day of the Ascension, as St. Augustine says in his sermon De passione Domini. This was so that Christ be the first to enter into the heavens and paradise of the blessed. And on the day of his Ascension, he showed men the way to get there, as had been predicted by the prophet Micaiah. Through his death, our Redeemer earned for men entrance into the paradise of the blessed. But for the souls of the Fathers, He also wanted to obtain possession of the place of beatitude, which he had opened to men by means of his Passion. It is believed that the holy souls of the Fathers visibly ascended into the heavens, following Christ on the day of his Ascension from the Mount of Olives (on the slopes of which there was the castle or villa of Betania, as the holy doctor Bede tells us). As the Holy Scriptures speak of the spring in Paradise and the four rivers that arise from it, this drawing depicts that. As there are still many who wonder how it is possible that these four rivers, arising from that most remote place, should yet have sources that are very far from one another, I will answer with the words of St. Augustine's De Genesi: these rivers, whose sources are known to us, are linked by underground routes, running through many regions and then coming to the surface in different places. One - that is, the Ganges - arises in India; the Tigris in Armenia, at Mount Charabach; the Euphrates also in Armenia, near the city of Erzurum; and the Ghion - or Nile - in Ethiopia, in the province of Meroe in Abassia.

This Fra Mauro world map was intended for display in Venice and shows the Portuguese discoveries in Africa and emphasizes the feats of Marco Polo. The British East India Company commissioned a copy of this map in 1804, implying that Britain was heir to the Portuguese empire.

The following map entitled *Americae sive qvartae orbis partis nova et exactissima descriptio / avtore Diego Gvtiero Philippi Regis Hisp. etc. Cosmographo Hiero. Cock excvde 1562; Hieronymus Cock excude cum gratia et priuilegio 1562* was created by Diego Gutiérrez *(#400*) and serves as a powerful celebration of Spain's New World Empire. In this map, King Philip II is shown riding the turbulent Atlantic Ocean on a chariot; this illustration is reminiscent of the Roman God Neptune. References like this were intended to strengthen Spain's image in Europe and its claim to the Americas.

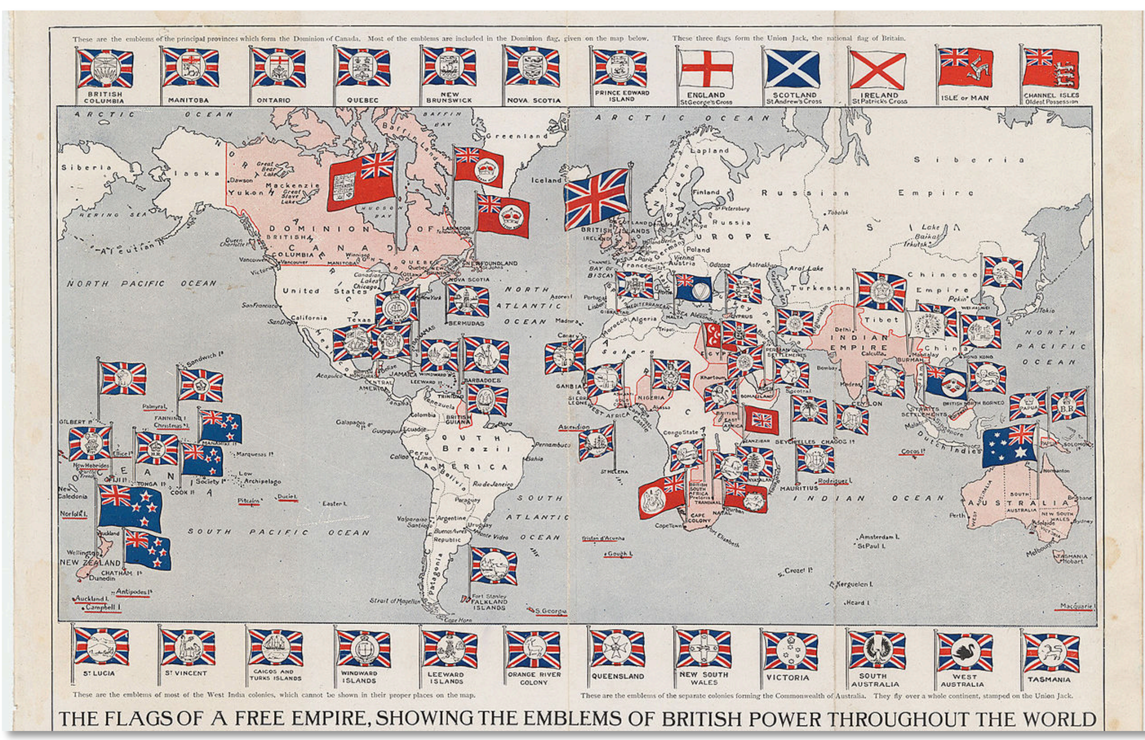


Americae sive qvartae orbis partis nova et exactissima descriptio / avtore Diego Gvtiero Philippi Regis Hisp. etc. Cosmographo Hiero. Cock excvde 1562; Hieronymus Cock excude cum gratia et priuilegio 1562 by Diego Gutiérrez (#400)



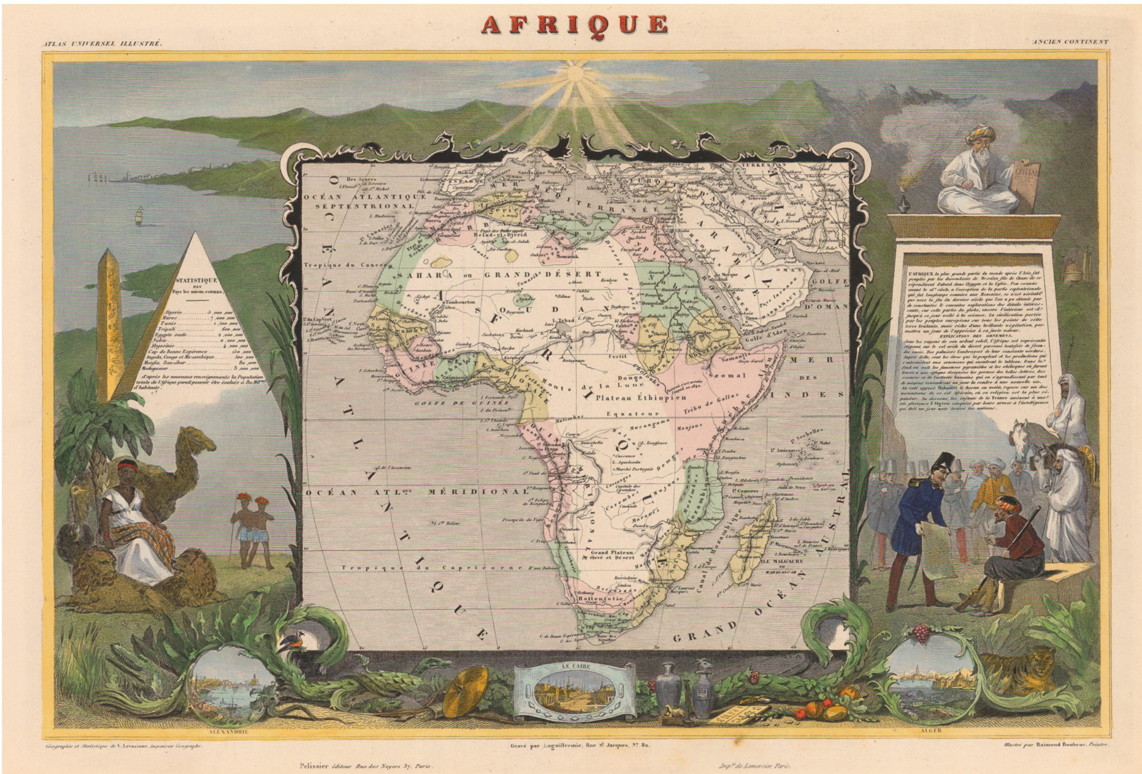
Detail: off the eastern coast of South America, King Philip of Spain arriving at the New World

European rulers often tried to intimidate visiting envoys by displaying maps of their masters' lands and forts, with the implication that the maps were a first step towards conquest. For example, in 1527, during festivities for the French ambassador in England, maps depicting aerial views of French towns being successfully besieged by the English decorated the walls of a Greenwich pavilion specially built for the ambassador's visit.



By displaying oversized flags of British possessions, this 19th century map artificially increases the apparent scope and power of the Empire legitimizing their colonial rule.

All colonial powers used maps as an intellectual tool to legitimize territorial conquest. Maps during the colonial period were also used to organize and rank the rest of the world according to the European powers. Edward Quin used color to depict civilization in his *Historical Atlas in a Series of Maps of the World* (London, 1830). In the introduction of the atlas Quin wrote, *"we have covered alike in all the periods with a flat olive shading...barbarous and uncivilized countries such as the interior of Africa at the present moment."*



1852 map of Africa by Victor Levasseur
An interesting contrast to the preceding English map of the same period, this French version appears subordinate to its surrounding pictorial (and political) representations. The decorations, however, are intriguing and revealing. The hot African sun reigns over the continent. On the right, a French military officer is showing an armed Arab a map or other document (a surrender document?), while French soldiers and Arab horsemen look on. Seated above them on a shelf is a turbaned Muslim holding a tablet lettered CORAN (Koran)

However, even within these limitations most people assume a great deal of trust in maps that can be interpreted in many ways (the trust, that we all have to indulge into, at least partially, as the users of the maps, as it enables us to let them lead our way). Perhaps the reason for this trust has something to do with our strong belief in the credibility of what presents itself before our very eyes - the assertion that the images do not lie, or at least it is much more complicated to fabricate a lie using images than words; perhaps the conviction of their inability to conceal is really the result of the continuity of the representation as long as every line is drawn without a break and the space is filled, the omissions are easy to overlook. Only a sight of a blank space puts us on alert.

Another perspective is offered by Chet van Duzer in a short article, "With Savage Pictures Fill their Gaps': On Cartographers' Fears of Blank Spaces". Here he states that

historians of cartography occasionally refer to cartographers' *horror vacui,* that is, their fear or hesitancy to leave spaces blank on maps that might be filled with decorations. Some scholars have denied that this impulse was a factor in the design of maps, but the question has never been examined carefully. The maps exhibited here show that a fear of empty spaces on maps, or at least a fondness for filling every available space, was indeed an important factor in the design of maps, at least for some cartographers, from the 13th to the early 18th century. In the late 17th and 18th centuries maps began to be thought of as more purely scientific instruments, cartographic decoration declined generally, and cartographers managed to restrain their concern about spaces lacking decoration in the interest of presenting their work as modern and professional. Some cartographers adopted this new aesthetic before others, but as more and more cartographers did so, maps adopted their typically unadorned modern appearance.

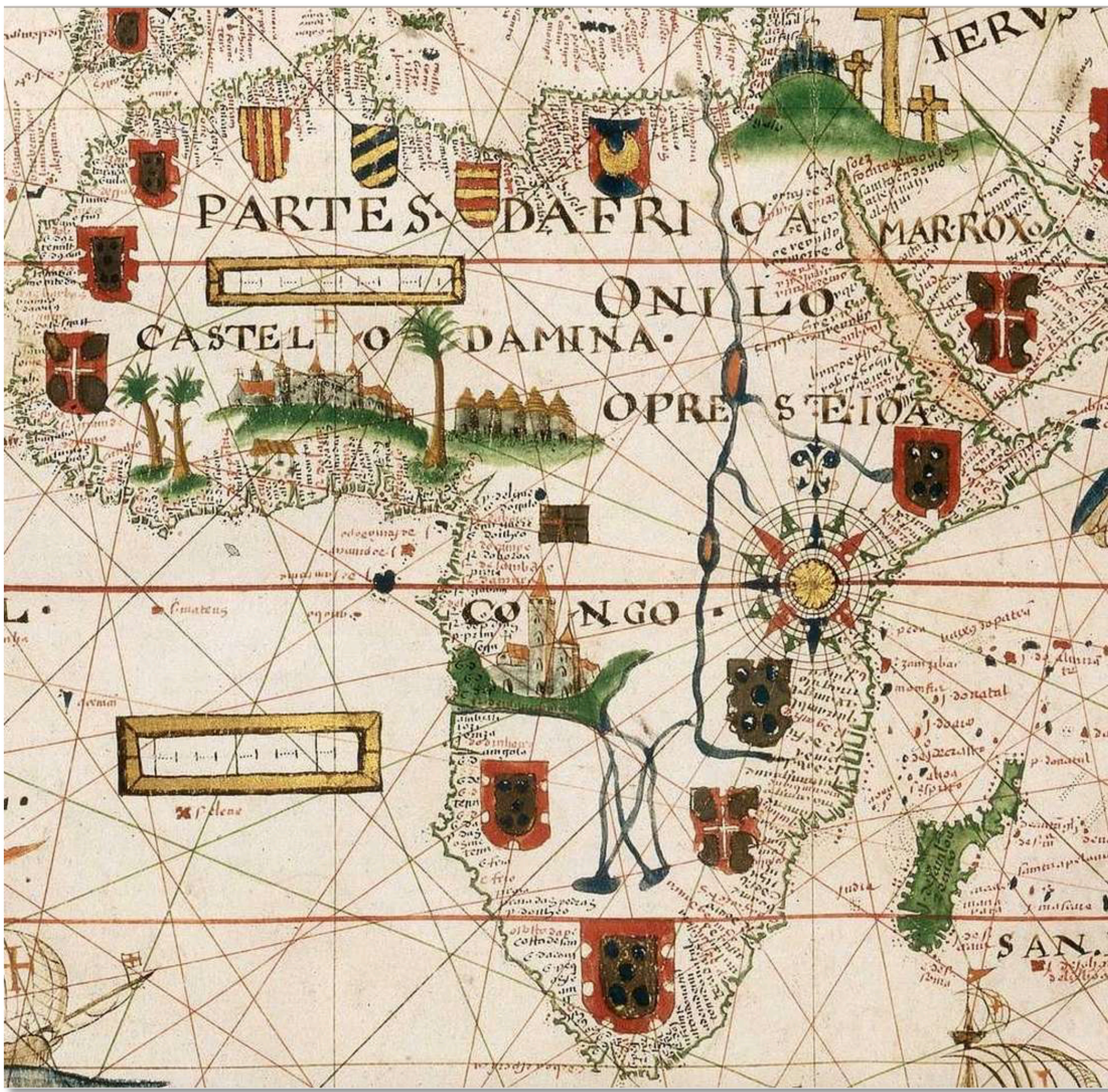


The Carta marina by Olaus Magnus, 1539 (#366)
An extreme/typical example of horror vacui.

Like the medieval *Hereford* and *Ebstorf mappaemundi* shown above, this Renaissance map by Olaus Magnus is covered extensively with both land and sea creatures. With such scant geographic information, it has been suggested that this could well be the cartographer succumbing to a bout of *horror vacui,* and filling a space with something of his own creation.

SILENCE is directly related to PURPOSE. What is purposely included as well as what is purposely excluded from any map is entirely based upon the cartographer's

(and his sponsor's) purpose for making the map. If political, financial, religious, technical, spatial or any other of a myriad of reasons, the cartographer decides what gets displayed and what does not; as well as how it is displayed, emphasized, de-empathized, etc. For example, during the expansive Age of Discovery of the 15th through the 18th centuries, flags and ships were used by the cartographers to project power/domination and ownership of newly discovered territory and sea routes. Therefore the exclusions of a competitor's ships and/or flags had the opposite affect,



Africa as portrayed on the Planisphere of Domingos Teixeira, 1573
This map is a portolan-style chart with the coastal towns identified but the interior blank except for Portuguese flags denoting the possession of the European power and drawings of fictional cities, it is also an example of horror vacui

"Cartographic propaganda" is another form of "cartographic silence" when a map is created with the goal of achieving a result similar to traditional propaganda. The map can be outright falsified, or created using subjectivity with the goal of persuasion. The

idea that maps are subjective is not a new concept; cartographers refer to maps as a human-subjective product; and some view cartography as an industry, which packages and markets spatial knowledge, or as a communicative device distorted by human subjectivity. However, cartographic propaganda is widely successful because maps are often presented as a miniature model of reality, and it is a rare occurrence that a map is referred to as a distorted model, which sometimes can "lie" and contain items that are completely different from reality. Because the word *propaganda* has become a pejorative, it has been suggested that mapmaking of this kind should be described as "persuasive cartography;" defined as maps intended primarily to influence opinions or beliefs – to send a message – rather than to communicate geographic information.

The following are examples of the use of deliberate "silence" and propaganda on maps. In the Age of Discovery there was a premium on geographic information: ports of call for wood, food and fresh water, deep natural harbors, shorter passages and straits. All of these elements became one nation's "competitive advantage" over their rivals.

The depiction on maps of legendary mythical islands such as *St. Brendan, Antilla, Hy-Brazil, Icaria, Podalida, Neome, Estotiland*, ***Drogeo***, *Hose and Frisland* for over 300 years can be seen as promoting the idea that there were "stepping stones" across the Atlantic to make migration and commerce easier for Europeans.

The German cartographer Heinrich Sherer produced many maps around 1700 that had a very religious theme *(#492)*. These maps can be perceived as "propaganda" to promote Christianity and religious conversion of indigenous peoples in usurped/ conquered/colonized territory.

The Dutch East India Company, or VOC, had a mission to censor cartographic knowledge of newly explored regions. It complained when ships owned by its rival, the Australische Compagnie, entered the Pacific by a new passage round Cape Horn, named the *Le Maire Strait*. The VOC persuaded the Dutch government to prohibit the publication of this latest geographical information. However, the injunction was lifted after twelve months and Willem Blaeu and other cartographers were permitted to publish revised maps.



This portion of the map of Asia by Heinrich Sherer illustrates the various missions of the Society of Jesus (legend in right lower corner). The stunning title cartouche features members of the various Asian races kneeling at the foot of the crucifixion.

The German cartographer Henricus Martellus made his famous 1490 *mappamundi (#256),* soon after the Portuguese navigator, Bartolomeu Dias, sailed round the southern tip of Africa. The map is based on a Portuguese prototype (which has not survived), but the coast of southern Africa is greatly extended and dislocated. Some scholars have suggested that this distortion is a result of misinformation circulated by King John II. His purpose was to pretend that the new eastern sea route to Asia and was far longer than it actually is, in order to discourage foreign interlopers from profiting from

Portuguese discoveries. Christopher Columbus may have even consulted Martellus' map (or a copy) before leaving Spain in 1492 to find the western route to Asia.



A map of South America by Heinrich Sherer, 1690
illustrating the religious theme of conversion of indigenous people (#492)



1490 world map by Henricus Martellus 79 x 48 inches/201 x 122 cm,
Yale University Beinecke Library, New Haven, Connecticut (#256)

As mentioned earlier, when Francis Drake sailed on his voyage round the world in 1577, he was given clear instructions that "none shall make any charts or descriptions of the said voyage." Furthermore, all charts made or captured from foreigners had to be delivered to the Lords of Her Majesty's Privy Council. Two hundred years later, the Admiralty's instructions to Captain Cook were almost identical. The British Admiralty sent James Cook on his three Pacific voyages during the Second Hundred Years War when France and Britain were vying for commercial supremacy and control of shipping lanes around the world. Cook has been accused of making "major mistakes in his charting", such as depicting Stewart Island as a peninsula, and the failure to determine the insular character of Tasmania. However, Cook was the greatest navigator of his day and too experienced to make such errors. During his three Pacific voyages, Cook was on a mission to keep secret any strategic discoveries he made such as off-shore islands and deep, natural harbors. He would report such prizes to the Admiralty when he returned to London, but meanwhile he would omit them from his journal and charts. Cook's program of disinformation was first proposed in the Margaret Cameron-Ash book *Lying for the Admiralty: Captain Cook's Endeavour Voyage* (2018).

In 1770, Cook found Sydney Harbor by walking overland from Botany Bay, along an aboriginal track connecting the two inlets. He also identified Bass Strait that separates Tasmania from mainland Australia. However, off-shore islands can provide a base from which operations could be mounted by a hostile power so he concealed Tasmania's insularity. Similarly, Cook depicted New Zealand's Stewart Island as a peninsula, concealing Foveaux Strait.

However, Captain Cook's fake maps were not fake enough for the Admiralty. It wanted even greater concealment of politically sensitive discoveries when it commissioned Dr. Hawkesworth to write the official account of Cook's voyages. Thus the Admiralty's engraver deliberately altered and refined Cook's manuscript charts when preparing them for printing. Hawkesworth's "Journals" was a bestseller in Europe, and the Admiralty's fake maps mislead Britain's rivals for decades.

The depiction on a map of a fictitious "shortcut" to Asia through a strait on the mid-Atlantic coast of North America, dubbed the *Verrazano Strait* and *Verrazano Sea* promoted a commercial path to the riches of Asia for a good part of the mid 16th century. *(see monographs #338 (Vespucci), #340 (Maggiolo), #347 (Verrazano), #418 (John Dee), #419 (Michael Lok), and #472 (Farrer).*



The North American portion of the 1527 map with the Sea of Verrazano by Vesconte de Maiollo [Maggiolo] #340

The depiction of California as an island began in 1601 with the publication of *A historiography of the Americas by Antonio Herrera y Tordesillas began with his Descripción de las Indias*; and later in 1625 on the map of Henry Briggs *(#461)*. In Holland, Germany and England maps showing California as an island continued to be engraved and published well into 18th century. However, maps contesting the theory were being published in France from after 1705 when the Jesuit Missionary, Father friar Eusebio Kino, who was initially a believer in the island notion, made a series of journeys from Sonora to the Colorado river delta by walking from New Mexico to the California Pacific coast, and confirmed that California was indeed part of the North American mainland. However, it was not until mid-century, in 1747, that King Ferdinand VII of Spain decreed that California was not an island. Major cartographers such as Willem Blaeu and Herman Moll fell for the blunder, and lent it credence with their own reproductions. It wasn't until 1706 that doubt began to be cast. The reports of Juan Bautista de Anza, from his 1774 travels between Sonora and the west coast of California, effectively re-attached the island to the mainland, although, strangely, it makes one curious, much later appearance on a Japanese map by Shuzo Sato in 1865. Question: Why was California depicted as an island for 150 years, even after it was proven to be a peninsula? Answer: maps with California displayed as an island simply sold better. *(see separate monograph on this topic of California as an island on this website)*



The North Part of America, 1625 by Henry Briggs (#461)

In 1765, the Swiss geographer Samuel Engel, accused the Russian government of deliberately falsifying maps by extending Siberia 30° eastward. Its purpose, according to Engel, was to exaggerate the length and difficulty of the Northeast Passage along the arctic coast, in the hope of discouraging rival European merchants from attempting this route to the Pacific and China.

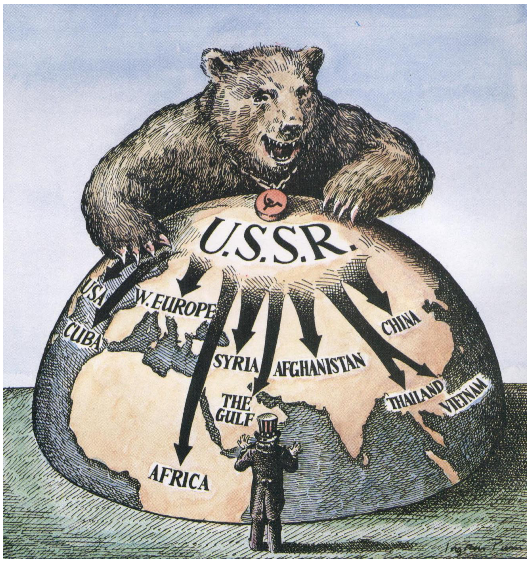
In the 20th century the deliberate use of silence and falsification of maps continued. In October 1941, before the United States entered World War II, President Franklin D. Roosevelt announced that he had "a secret map" of South America titled '*Luftverkehrsnetz der Vereinigten Staaten Süd-Amerikas Hauptlinien*'. He said the map had been "made in Germany by Hitler's government" and that it showed that the Nazis had designs against the United States. It was a fake map, probably created by British intelligence agents, but Roosevelt may have thought it was genuine.

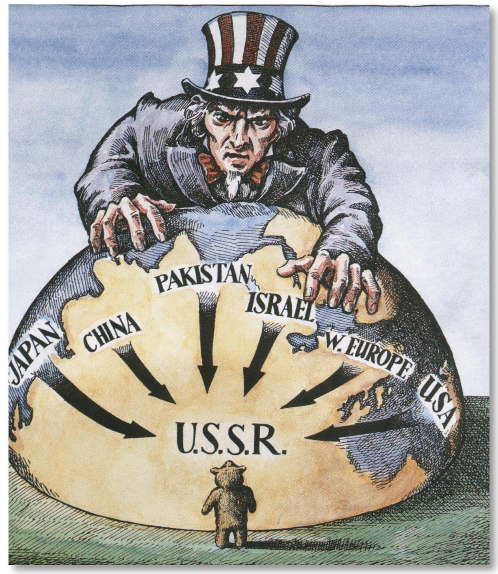
A variant of censorship of maps is the labeling of false elevations/altitudes. This can be important for predicting flooding. In World War I many German soldiers were killed in Belgium after their camps were flooded, even though the maps used by German military indicated the campsites were not prone to flooding. Censorship of maps was also used in former East Germany, especially for the areas near the border to West Germany in order to make attempts of defection more difficult.

The interwar period in Germany [1918-1939] fostered the development of cartographic propaganda. German propagandists discovered the advantages of cartography in the manipulation of reality. For the Nazi regime, the most important goal in producing maps was their efficiency in providing communication between the ruler and the masses. The use of maps in this manner can be referred to as "suggestive cartography," as being capable of dynamic representations of power.

This period of geo-political cartographic development was a continuous process associated with Nazis and World War II; the development of cartographic propaganda is closely related to the wider Nazi propaganda machine. There were three different

categories of propaganda maps that were used by the Nazi propaganda machine; (1) maps used to illustrate the condition of Germany as a people and nation that are unified; (2) maps taking an aim at the morale of the Allies via a mental offensive through maps specifically designed to keep the U.S. neutral in the war by changing the perception of threats; and (3) maps as blue-prints of the post-war world. During this period, this approach to cartography expanded to Italy, Spain, and Portugal as cartographers and propagandists found inspiration in the "positivistic trends of the German world."





This more overt use of maps as propaganda continued into the Cold War period. Post-World War II U.S. cartographers modified projections to create a menacing image of the Soviet Union by making the Soviet Union appear larger and thus more threatening. This approach was also applied to other nearby communist countries, thereby accentuating the rise of communism as a whole. The April 1, 1946, issue of *Time* magazine published a map entitled *Communist Contagion*, which focused on the communist threat of the Soviet Union. In this map the strength of the Soviet Union was enhanced by a split-spherical presentation of Europe and Asia that made the Soviet Union seem larger as a result of the break in the center of the map. Communist expansion was also emphasized in this map as it presented the Soviet Union in a vivid red color, a color commonly associated with danger (and communism as a whole), and categorized neighboring states in terms of the danger of contagion, using the language of disease (communist states were referred to as "quarantined", "infected" or "exposed", adding to the presentation of these countries as dangerous or threatening). More generally, during the Cold War period, small-scale maps served to make dangers appear menacing; some maps were made to make Vietnam appear close to Singapore and Australia; or Afghanistan to the Indian Ocean. Similarly, maps illustrating rocket positions used a polar azimuth projection with the North Pole at its center, which gave the map reader the perception that there existed a relatively small distance between the countries on opposing sides of the Cold War.



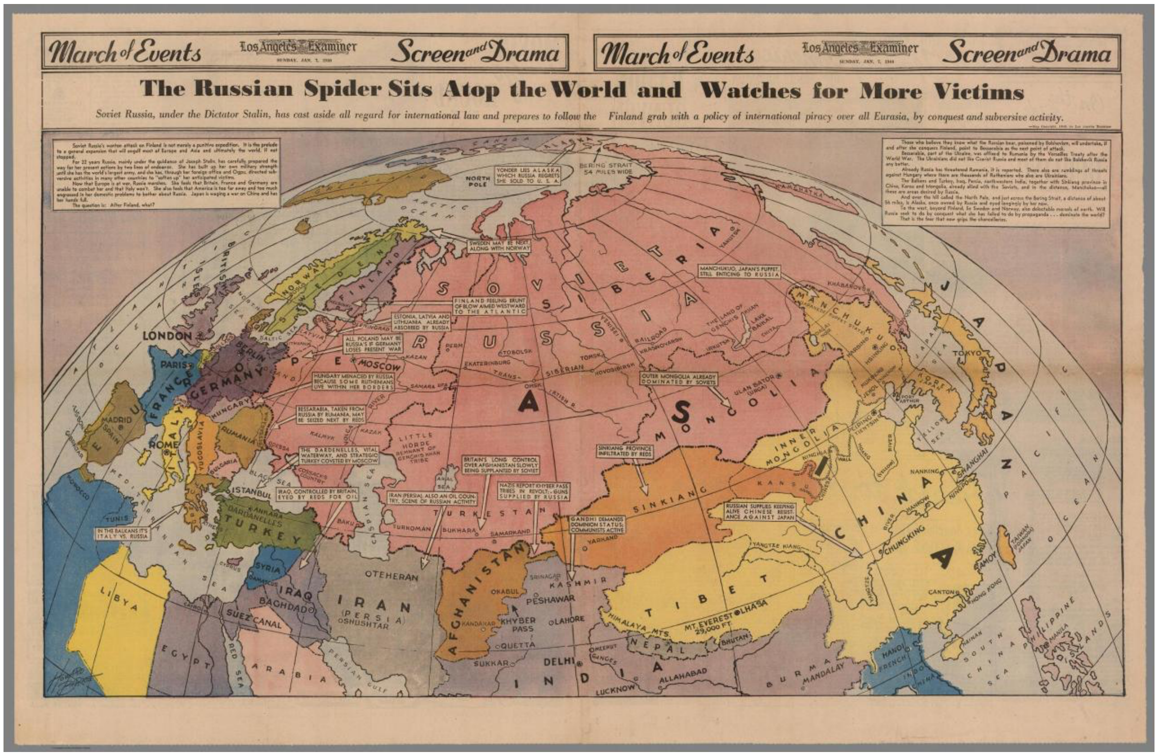
Anti-Communist map from the January 2, 1950 issue of Time magazine. The Cold War split much of the world into Soviet and American spheres of influence. While science was supposed to transcend political differences, scientists were not immune to the push and pull of politics.

In the United Kingdom, during the Cold War period and shortly after, a number of military installations (including “prohibited places”) did not appear on commercially issued *Ordnance Survey* (OS) mapping. This practice was effectively curtailed with the mass availability of satellite imagery. Another aspect of map silence/censorship in the UK is that the internal layout of Her Majesty’s (HM) Prison facilities were not shown on public OS mapping.

Censorship of maps is today still often applied, although it is less effective in the age of satellite picture services and *Google Earth* maps. A “dead map” is a term often applied to sensitive government maps that show the location of top secret facilities and other highly sensitive installations within a country. Russia, the United States and Great Britain all have such maps. *Google Earth* censors places that may be of special security concern. The following is a selection of such concerns:

Former Indian president, Abdul Kalam, had expressed concern over the availability of high-resolution pictures of sensitive locations in India. Indian Space Research Organization says that *Google Earth* poses a security threat to India and seeks dialogue with *Google* officials.

The South Korean government has expressed concern that the software offers images of the presidential palace and various military installations that could possibly be used by North Korea.



The Russian Spider Sits Atop the World and Watches for More Victims. Colored full spread newspaper map published in the Los Angeles Examiner on January 7, 1940.

Operators of the Lucas Heights nuclear reactor in Sydney, Australia asked *Google* to censor high resolution pictures of the facility. However, they later withdrew the request.

The government of Israel also expressed concern over the availability of high-resolution pictures of sensitive locations in its territory, and applied pressure to have Israeli territory (and the Occupied Territories held by Israeli forces) appear in less clear detail.

The Vice President of the United States' residence (Naval Observatory) in Washington, DC has been pixelated, as has the Federal Gold Depository at Fort Knox.

From June 2007 until January 2009, downtown Washington, DC was shown using USGS aerial photography from the spring 2002, while the rest of the District of Columbia was shown using imagery from 2005.

In Lebanon, all maps concerning the country are property of the Lebanese Army and are issued by the Directory of Geographic affairs of the Lebanese military. It is considered a felony to reproduce whole or portions of maps without the permission of the military, although maps can be issued to certain universities and urban design schools for use by students and can be issued to civilian upon presenting certain documents. A notice is written on the maps prohibiting reproduction, copying or sale of the map and that it should be returned to the Ministry of National Defense upon request. This policy is meant to prohibit terrorists, outlaws, and entities that are at war with Lebanon from obtaining those maps.

Lists of air traffic obstacles may not be published by many countries as many of them are strategically important (chimneys of power stations, radio masts, etc.)

Silence and censorship of maps is also applied by *Google Earth* maps where certain areas are grayed-out or areas are purposely left outdated with old imagery.

The Australian island state of Tasmania has been omitted from maps of Australia over time. Such omissions often provoke outrage from Tasmanians, or amusement on the mainland Australia.

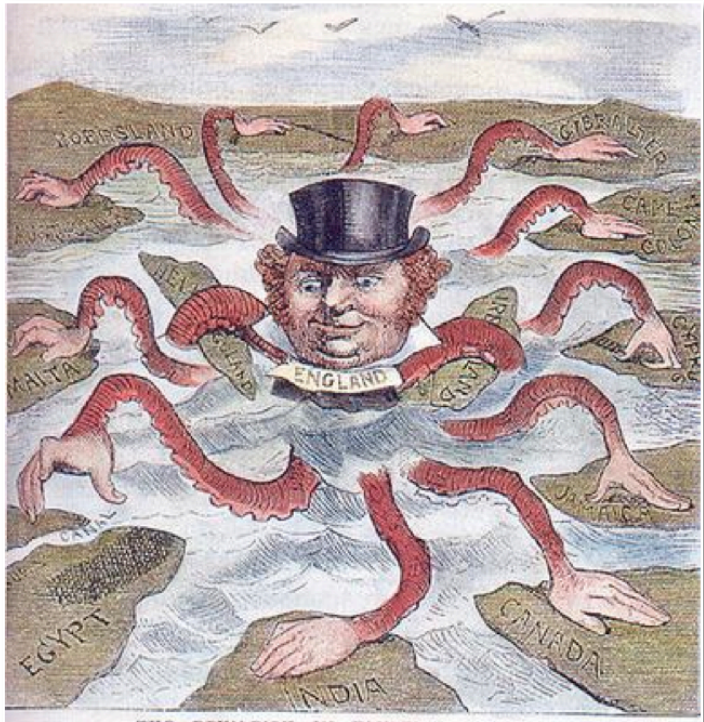


1805 map of Africa by John Cary, illustrating the extent of knowledge about Africa's interior by external entities. Note the lack of exotic animals, ships or other embellishments to disguise the lack of knowledge of the interior of Africa; thus treating a well populated Africa with its own sovereign entities as "up for grabs", unpopulated, ungoverned – available for exploitation. That was all to change with rapid colonization of Africa by European countries. (see the separate monograph on the Evolution of Africa on Early Maps)

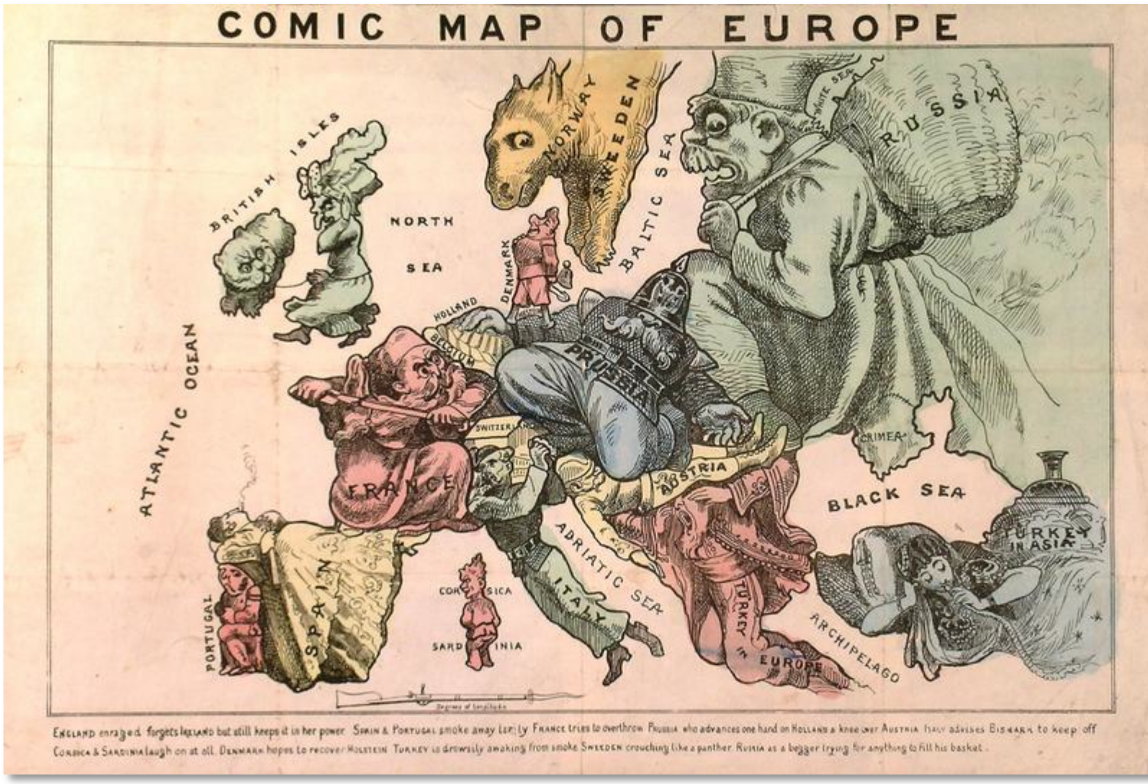
Examples of purely "propaganda maps"



L'Europa Geografico-Politica, 1749



English Imperial Octopus, 1888
American cartoon of John Bull (England) as an Imperial Octopus (with its arms and with hands!) in – or contemplating being in – various regions around the world, such as Ireland, Malta, Cyprus, Cape Colony, Gibraltar, Boersland, Jamaica, Egypt, Canada, Australia, and India.



This was an anonymous caricature propaganda map of Europe at the beginning of the Franco-Prussian War 1870. Subtitle: '*England enraged forgets Ireland but still keeps it in her power*. Spain & Portugal smoke away lazily. France tries to overthrow Prussia who advances one hand on Holland and a knee over Austria. Italy advises Bismark to keep off. Corsica and Sardinia laugh on at everyone. Denmark hopes to recover Holstein. Turkey is drowsily awaking from smoke. Sweeden (sic!) crouches like a panther. Russia is depicted as a beggar trying for anything to fill his basket.



Angling in Troubled Waters: a Serio-Comic map of Europe, 1899

Published in London by GW Bacon in 1899, caricaturist Fred W Rose created this cartoon map in 1877, when British hostility to Russian territorial ambitions in the Balkans, at the expense of the tottering Ottoman Empire, was at its height. British determination to resist what were held to be Russia's overweening territorial ambitions was not confined solely to India.

The Balkan crisis of 1877, in which the British government sided with the Ottoman Turks against the Russian tsar, led to the publication of this curious Serio-Comic War map. It illustrated the threat posed to British political and commercial interests by the Russia in its quest for world domination. Rose continued to produce eye-catching cartographical curiosities for the rest of the century, including what was probably his masterpiece, *Angling in Troubled Waters: A Serio-Comic Map of Europe' in 1899*.

Conclusions. In "Silences and Secrecy", Brian Harley is explicitly concerned with the "political silences" that are part of cartography as a discourse that Harley defines as a set of linguistically-based, verbal and non-verbal social practices concerned with establishing and maintaining power. Insistent upon revealing the social and political foundations of scientific cartography, Harley believes that *"maps are [to be] interpreted as socially constructed perspectives on the world, rather than as the 'neutral' or 'value-free' representations"*. Drawing on ideas from phenomenology and the philosophy of language, Harley argues that silences on the map can reveal as much as explicit map

statements, and that they should be regarded as *"positive statements and not as merely passive gaps in the flow of language"*.

Harley distinguishes between intentional silences and unintentional silences. Intentional silences are politically-imposed secrecy rules and deliberate acts of censorship/manipulation that are designed to control the creation of cartographic knowledge and repress strategic or proprietary commercial information that might benefit an enemy or competitor. For Harley, efforts by early modem states to exert political authority by controlling information constitute a classic form of *Foucauldian* "knowledge is power." On the other hand, unintentional silences are not consciously created, but are grounded in the cultural, linguistic and epistemological boundaries of specific historical periods, what Harley, after Foucault, calls the *episteme*. Within a particular cultural setting, the episteme "delimits the totality of experience" (citing Foucault), framing how a group of people culturally perceive, conceive and interact with themselves, each other, and the surrounding world. In Harley's analysis, the maps of a particular historical period reflect those cultural things recognized as important to the people who control the production of cartographic knowledge, but the silences of these maps reveal the boundaries of their episteme as well.

The first conclusion that can be drawn is that, while initially simple and familiar, the notions of "knowledge is power" and of cartography as a discourse of power with social effects are immensely complex once we start to relate them to specific historical contexts. Faced with a particular map, it is often hard to tell from the historical context whether its silences are the result of deliberate acts of censorship, unintentional epistemological silence, or a mixture of both, or perhaps merely a function of the slowness with which cartographers revised their maps to accord with the realities of the world. The relationships between maps and power, and between maps and other forms of knowledge, were constantly changing. The contribution of cartography in the maintenance of authority throughout the medieval and Renaissance periods was never a constant factor. The complexities were recognized by Richard Helgerson who pointed out that maps could never be ideologically neutral, whatever their use or the consequences of their use and that they could never be 'mere tools' whether of monarchic centralism or any other organization of power. They inevitably entered, he said, into systems of relations with other representational practices and, in so doing, altered the meaning and authority of all the others. It is this constantly shifting terrain between maps and other forms of power-knowledge which still has to be charted within the history of cartography.

It has been shown from particular maps that deliberate censorship and secrecy in the past has indeed resulted in detectable cartographic and historical consequences. But the same is true of the epistemological silences, the 'unthought' elements in discourse. These are also affirmative statements and they also have ideological consequences for the societies in question. Such silences also help in the reproduction, the reinforcement, and the legitimization of cultural and political ·values. Finding them expressed geographically on maps points to universality. There is no such thing as an empty space on a map. Revealed by a careful study of the cartographic unconscious and its social foundations, these hidden agenda items have much to offer historians of cartography in coming to an understanding of how maps have been, and still are, a force in society.

The more we think about the universality of secrecy, of censorship and silence in maps, and the more we continue to reflect upon the epistemological codes of map knowledge, the less convinced we become that map knowledge can be regarded as

"objective" or "value free." Maps became part of an increasing repertoire of power techniques and it is a major error to conflate the history of maps with the history of measurement. The essential paradox has been missed. As cartography became more "objective" through the state's patronage, so it was also imprisoned by a different subjectivity that is inherent in its replication of the state's dominant ideology. The old question of whether particular maps are true or false has not been the concern in this monograph. On the contrary this question has to be downgraded if it is accepted as I have tried to argue here that maps are perspectives on the world at the time of their making and the intent of the cartographer/sponsor. My aim in this essay has been to initiate the interrogation of maps as actions rather than as impassive descriptions and to persuade users of cartography to ask the crucial question - What are the "truth effects" of the knowledge that is conveyed in maps, both of its more emphatic utterances, and also of its equally emphatic silences.

As Mark Monmonier states: "lying with maps is, of course, a lot different from lying with statistics. Most maps are massive reductions of the reality they represent, and clarity demands that much of that reality be suppressed. The mapmaker who tries to tell the whole truth in a single map typically produces a confusing display, especially if the area is large and the phenomenon at least moderately complex. Map users understand this and trust the mapmaker to select relevant facts and highlight what's important, even if the map must grossly distort the earth's geometry as well as lump together dissimilar features. When combined with the public's naive acceptance of maps as objective representations, cartographic generalization becomes an open invitation to both deliberate and unintentional prevarication".

At the risk of stretching the notion of lying, overtly or covertly, Monmonier is convinced that inadvertent fabrication is far more common these days than intentional deceit. Moreover, because most maps currently are customized, one-of-a-kind graphics that never make it into print or onto the Internet, prevaricating mapmakers often lie more to themselves than to an audience. Blame technology—a conspiracy between user-friendly mapping software (or not-so-user-friendly geographic information systems) and high-resolution laser printers that can render crisp type and convincing symbols with little effort or thought. Because lying with maps is so easy in our information-rich world, infrequent mapmakers need to understand the pitfalls of map generalization and map readers need to become informed skeptics.

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